TECHNOLOGY DEPT.

NEW EQUIPMENT DIGEST

EQUIPMENT • IMPROVEMENTS • PROCESSES • MATERIALS • METHODS • APPLICATIONS • LITERATURE

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FEB 10 1945
DETROIT

Vol. 10 February, 1945 No. 2

BAND SAW

Designed for fast, easy cutting of magnesium, aluminum, soft brass and other nonferrous metals, as well as plastics, composition, fiber and wood, this Skip Tooth band saw provides adequate chip clearance. It is shaped to prevent loading and clogging of teeth even with high speeds and heavy feeds. Hard edge, flexible back construction is used and band saw fits any standard machine. Life between resharpening periods is claimed to be extended. Made by **W. O. Barnes Co.**, 1295 Terminal Ave., Detroit 14, Mich.

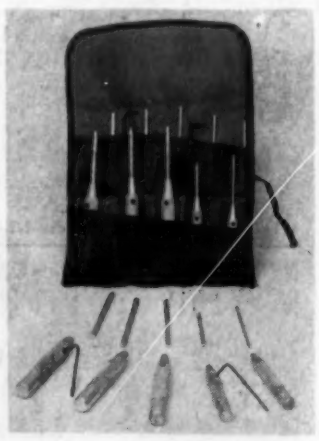
▲ Mention Item **NED-623** when writing ▲

PUBLIC ADDRESS SYSTEM

Designed for paging in industrial plants and large offices, as well as for distributing plant music, this powerful, all-purpose amplifying system delivers full 60 watts of undistorted output. It features four individually controlled microphone channels, two individually controlled phonograph channels, universal output for matching any arrangement of speakers, individual controls for high and low frequencies and optional phonograph top. Unit is available separately or with any combination of speakers and microphones, depending upon individual requirements. Prompt deliveries can be made on orders which carry minimum priority rating of AA5, approved on WPB-541 application. Made by **Allied Radio Corp.**, Dept. N-D, 833 W. Jackson Blvd., Chicago 7, Ill.

▲ Mention Item **NED-624** when writing ▲

PIN PUNCHES

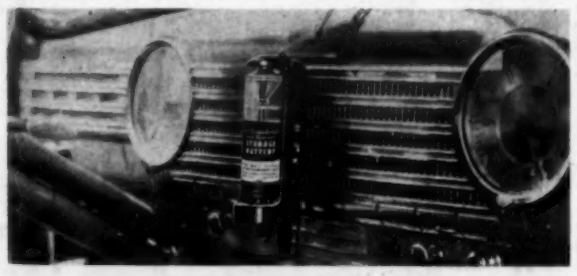


Featuring removable, replaceable inserts for practically every purpose, this kit of pin punches includes five bodies and ten inserts in handy leatherette case. Inserts are made of tempered steel in lengths to fit need. Diameters are 3/32, 4/32, 5/32, 6/32 and 7/32 inch. Base of insert hole in punch body ends at inner side of set screw hole, providing means for removing broken insert, if required. Punch bodies are available in ⅜ and ½-inch diameters. They are cadmium plated. Made by **Keller Machine Works**, 1358 Poplar Ave., Memphis, Tenn.

▲ Mention Item **NED-625** when writing ▲

FLASHLIGHT BATTERY CHARGER

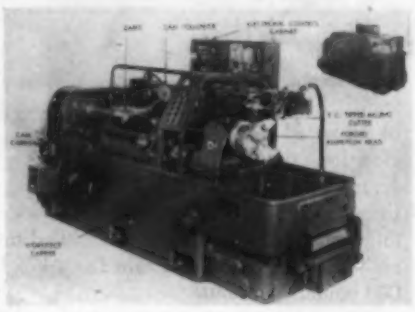
Operated from ignition system of automobiles, buses, tractors, boats or airplanes, this single unit charger maintains flashlight storage battery at top charge at all times. Designed



for convenient attachment to dash, cowl, side panel or other location, charger may be connected so that it operates either while vehicle is running or idle. It operates on 6 or 12 volts, direct current. Pilot light indicates when unit is operating and toggle switch prevents overcharge. Distributed by **The B. F. Goodrich Co., Dept. E, 500 S. Main St., Akron, O.**

▲ Mention Item **NED-626** when writing ▲

AUTOMATIC MILLING UNIT



Milling of circular, partial and dome fins on forged airplane cylinder heads is accomplished quickly with this special machine which features automatic electronically controlled feed rate. It will handle in two operations same production formerly requiring four machines and four separate operations. Circular and partial fins are milled in one operation. Milling of dome fins requires change in cams, cutter and work-holding fixture.

Path followed by cutter is irregular and constantly changing in shape and depth for each successive fin. With automatic electronic feed control, cutter is kept loaded to full capacity. If cut becomes light, rate of feed increases, and vice versa. Completely automatic cycle is provided after loading. Irregular path of cutter is controlled by set of cams, one for each fin to be cut. Master cams and work part are mounted on single splined shaft, thus eliminating possibility for error. Work is totally enclosed during cutting cycle as shown in upper right of illustration.

There is no waste motion or cutting of air under irregular cutting. Adjustments are positive and cutter can be set to rapid approach to within ⅛-inch of each fin. By combining several operations into one machine, considerable floor space has been saved over previous method of machining. Made by **Sundstrand Machine Tool Co.**, 2574 Eleventh St., Rockford, Ill.

▲ Mention Item **NED-627** when writing ▲

Do You Know

■ LIFE of airplane turbo-superchargers, vital to stratosphere flying, has been increased more than five times through production method perfected early in war program. Nozzle diaphragm is cast in single unit, eliminating former method of fabricating and assembling numerous parts. Molding and casting technique were taught to other companies so as to meet substantial portion of industry's monthly requirements. Developed by Allegheny Ludlum Steel Corp., Pittsburgh, Pa.

▲ Mention Item **NED-628** when writing ▲

"Highway to Alaska" depicting photographically magnitude and wonderment of construction job is now available for industrial and instructional use in form of 16-millimeter Kodachrome sound motion picture. Requiring 22 minutes for showing, this film traces scenery and action in muskegs of swamps, rocks of mountain crags, frozen Arctic rivers and in stubborn forests on this road from Edmonton, Canada to Fairbanks, Alaska. Available from Allis-Chalmers Mfg. Co., Tractor Div. Photography Dept., 6900 Norman St., Milwaukee 1, Wis.

▲ Mention Item **NED-629** when writing ▲

Postwar air travelers will depend upon tiny coils of wire and electron tubes to keep warm while flying through the substratosphere. These coils, like fingers reaching ahead of the plane, will anticipate temperature requirements and cause more or less heat to be delivered before passengers realize that there has been any change in the outside temperature. Changes as great as 50 degrees Fahr. are compensated for by control which is known as Electronic Cabin Temperature Control System. Developed by Minneapolis-Honeywell Regulator Co., 2950 Fourth Ave. S., Minneapolis, Minn.

▲ Mention Item **NED-630** when writing ▲

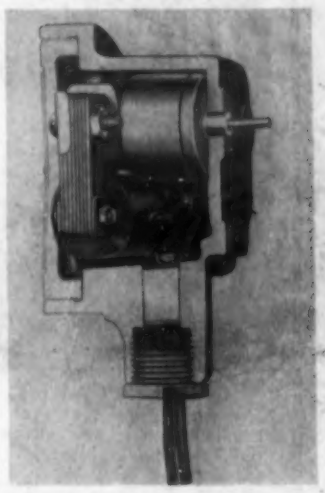
Intended to place fundamental precepts of lubrication on sound basis and thus benefit all phases of industry, the American Society of Lubrication Engineers has been organized on nonprofit basis. Membership is open to lubrication engineers representing industrial and transportation companies, as well as educators. Additional aim will be to promote subject of lubrication in educational institutions. Headquarters are American Society of Lubrication Engineers, 749 Field Bldg., 135 S. LaSalle St., Chicago 3, Ill.

▲ Mention Item **NED-631** when writing ▲

Read Carefully
CHECK AND PASS ON

CHECK	NAME AND TITLE	SEE ITEM NO.

EXPLOSIONPROOF MOTOR



Totally enclosed in bronze casting with removable screw cover and adapted for explosionproof conduit mounting, this Telechron motor can be supplied in various shaft speeds, voltages and frequencies. It is designed primarily for use in connection with automatic controls in industrial processes where atmospheres containing ethyl, ether vapor, gasoline, petroleum, naphtha, alcohols, acetone, lacquer solvent vapors and natural gas are found. Motors have already been used in large war plants producing chemicals, synthetic rubber, high octane gasoline and ammunition. It carries Underwriters' approval label, Class 1, Grade C and D, for hazardous locations. Made by **Warren Telechron Co.**, Ashland, Mass.

▲ Mention Item **NED-632** when writing ▲

SYNTHETIC MOLDING POWDER

Molded synthetic rubber parts with excellent resistance to solvents, greases, oils, fuels, sunlight, ozone and atmospheric oxidation may be produced from Thiokol molding powder. This powder, which becomes vulcanized at 300 to 360 degrees Fahr. to form tough, resilient elastic solid, is particularly applicable for compounds which must remain flexible at temperatures ranging from −50 to 220 degrees Fahr. It is adaptable for producing washers, valve seat discs, diaphragms, gaskets and grommets. It can be compounded to obtain finished parts with wide range of hardness. Physical properties are within range normally considered satisfactory for most mechanical rubber goods applications. Made by **Thiokol Corp.**, Dept. SM, Trenton, N. J.

▲ Mention Item **NED-633** when writing ▲

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with PLASTIC ROCK!

Trowel a smooth, tough, plastic surfacing right over your old concrete or wood floor

Plastic Rock comes complete, packed in barrels. Nothing more to buy. No application "formula" to confuse you. Simply mix and trowe right over old floor. Average depth one-half inch. Old floor Saturday is a new floor Monday. Also patches concrete to a perfect feather edge. Plastic Rock is absolutely spark-proof, skid-safe wet or dry, dustless, silent. Feels like cork under foot. Cannot splinter, crack, crumble, curl or oosen. Heavy loads on steel wheels actually improve it. Five-year old floors show no wear. Rich, dark neutral gray. Used by U. S. Army, Navy and largest industries in America. Your contractor or your own crew can apply.

Ask for your copy of Report 220-2

UNITED LABORATORIES, INC.
16804 EUCLID AVENUE • CLEVELAND 12, OHIO
Export Division: WASHINGTON INTERNATIONAL SALES, Washington, D.C.
In Canada: STORRAR MANUFACTURING COMPANY, Weston, Ontario

▲ Mention Item NED-634 when writing ▲

NEW! The ULTIMATE in SOLDERLESS CONNECTING DEVICES

Simply lay stripped ends of two or more wires in the slot. Built-in clamps on Bee nut and terminal post lock a wire to a wire in a vibration-proof, low resistance connection. Write for SAMPLES and data.

TEST-O-LITE

Tests Everything Electrical from 100 to 550 Volts

Equipped with Neon light which tells instantly where trouble lies in circuits, fuses, cut-outs, motors, etc. Indicates hot or grounded wires. Tells AC from DC. *Saves precious time.* Has *patented* safety features. Vest pocket size. Lifetime guarantee. List $1.50 (Priority A-7). Purchase thru regular electrical dealers.

L. S. BRACH MFG. CORP., Newark 4, N. J.

▲ Mention Item NED-635 when writing ▲

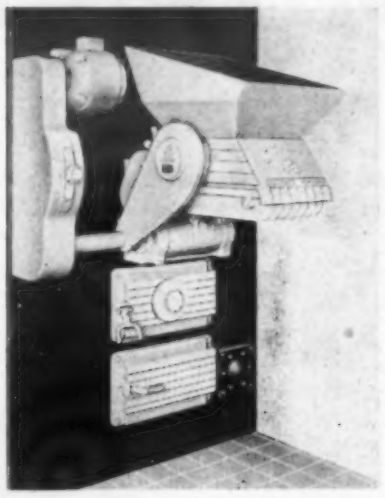
WHY JONES TACHOMETERS INCREASE PRODUCTION LOWER COSTS

Machines need not operate below peak productive capacity. Jones Portable Hand Tachometers give quick reliable checks on RPM, feet per minute, total output, and other essential production information, allowing you to run your machines at top desirable operating speeds, increasing production and lowering costs. Easy to use—foolproof. Continuous indicating, guaranteed calibration; lightweight and heavy duty. Complete with 4" extension rod, convex and concave rubber tips, 12" circ. peripheral disc, center punch and carrying case . . . . $60 FOB Stamford, Conn.

JONES MOTROLA COMPANY
439 Fairfield Ave. Stamford, Conn.

▲ Mention Item NED-636 when writing ▲

SPREADER TYPE STOKER



Practically all kinds and grades of solid fuels, including by-products and refuse, whether wet or dry, can be burned successfully with this AE Perfect Spread spreader type stoker. This versatility permits utilization of favorable market prices and fuels available in any locality.

Clean and quiet in operation, this stoker gets steam up on instant demand because of all-speed drive, non-clog feed, uniform fuel spreading by overthrow method and thorough combustion through forced draft and grate design. It can be installed under most existing boilers in sizes to produce steam from 175 horsepower up to 200,000 pounds per hour.

Other claimed advantages which reduce fuel costs and boost boiler room operating efficiency include fully protected mechanism which is accessible without tools, simple controls, water cooling, power dumping grates and flexibility of operation. Made by American Engineering Co., 2484 Aramingo Ave., Philadelphia 25, Pa.

▲ Mention Item NED-637 when writing ▲

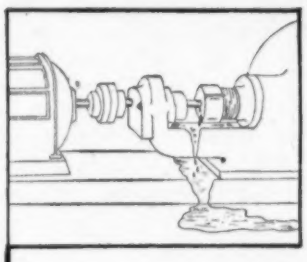
COMPARISON BRIDGE

Measurement of resistors, capacitors and inductors by comparison with standards is readily accomplished with this comparison bridge. Components can be measured with precision ranging from .5 to 10 per cent, and this range can be extended to 20 per cent. Completely self-contained, instrument operates on 105 to 125 volts, 50 to 60 cycles, alternating current. Simple and compact, this device is adaptable for high speed, precision testing in plants or laboratories by semi-skilled factory personnel.

Laboratory accuracy is provided under factory conditions. Instrument consists of alternating current bridge, phase shift oscillator and vacuum tube voltmeter. Nul indicator in conjunction with calibrated dial indicates percentage of difference between unknown and standard component.

It is supplied with three frequencies of 60, 1000 and 10,000 cycles. It will handle capacitors from 25 millimicrofarads to 20 microfarads, inductors from 5 microhenries to 500 henries and resistors from 10 ohms to 6 megohms. Equipment is mounted in 10x7½x8¼-inch case fitted with handle for convenience in carrying. List price is $105. Made by Freed Transformer Co., 74A Spring St., New York, N. Y.

▲ Mention Item NED-638 when writing ▲



SYNTRON MECHANICAL SHAFT SEALS

ELIMINATE Leakage and Repacking Nuisance

- A tested and proven way to eliminate pump shaft leakage and reduce friction.
- Simple and easy to install.
- Not affected by shaft misalignment, end plays, vibration, nor chatter.
- Self-lubricating.

Available for shafts from ½" diameter up
Catalog literature on request

SYNTRON CO.
405 Lexington
Homer City, Pa.

▲ Mention Item NED-639 when writing ▲

New! FLUORESCENT Lamp Changer

Saves Time and Manpower Reduces Accident Hazards

WITH the new C-B Lamp Changer, one man—standing on the floor—can easily remove and replace burnt-out tubes . . . quickly, safely and with little effort. This efficient device reduces accident hazards to a minimum . . . saves many manhours for more productive work.

Simple to Use. Removal and replacement of tubes is done by simple movement of handle while user is standing on floor.

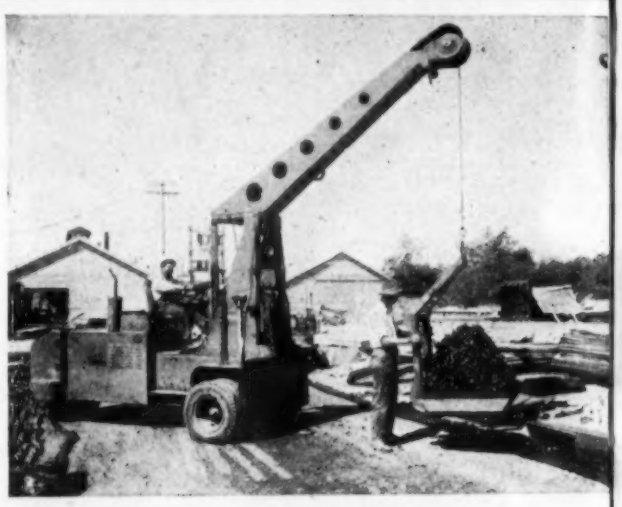
Standard Length—5 ft. Extension sections available to provide any desired length.

Weight, approx. 5 lbs. Price, $19.50

Write for Bulletin

C-B TOOL COMPANY, Lancaster, Pa.

▲ Mention Item NED-640 when writing ▲



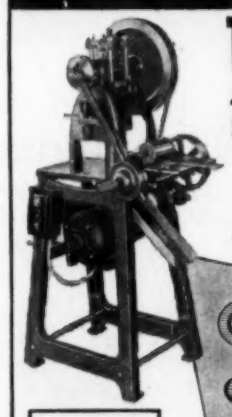
No load too "tricky" . . .

Within its load capacity of 10,000 lbs., the HYSTER Karry Krane handles anything, anywhere, over any surface. Wide rolls at both ends of sturdy boom, and wide side guides, provide for all types of hoist rigging—without jamming. Ample hoisting power; fast lift; 5-way adjustable boom; trunnion steering; pneumatic tires; standard controls . . . THE FINEST GENERAL UTILITY CRANE MADE. Write for data.

HYSTER COMPANY
2906 N. E. Clackamas, PORTLAND 8, OREGON
1806 North Adams, PEORIA 1, ILLINOIS

▲ Mention Item NED-641 when writing ▲

SMALL METAL • FIBRE • PLASTIC • PAPER STAMPINGS FAST with the DIEBEL Hi 550 RPM Speed STAMPING PRESS



Up to 550 Strokes a Minute
Heavy Duty Construction
5 Ton Capacity—Floor Space—Low Operating Cost

INCLUDE IN YOUR POST-WAR PLANNING

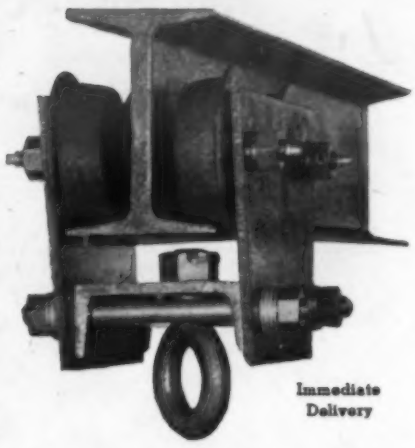
WRITE FOR CATALOG

DI MACHINE CORP. 3652 N. LINCOLN AVE. CHICAGO 13, ILLINOIS
DIVISION OF DIEBEL DIE & MFG. CO.

▲ Mention Item NED-642 when writing ▲

GRAY TROLLEYS

For Any Size I-Beam



Immediate Delivery

GRAY TROLLEYS are designed to meet the demand of industry for a trolley with closest possible head-room. They safely and efficiently raise loads, are easily transferable through the shop, and are equipped with New Type, Thoroughly Sealed, Gray Ball Bearing Trolley Wheels.

Long, trouble-free service is what you get with every GRAY TROLLEY and that's an important consideration today. Made in 250 lb. to 2-ton standard capacity sizes adjustable to suit various I-Beams. We would like you to have our bulletin which describes and illustrates in detail our TROLLEYS and our TROLLEY WHEELS. Send for it now!

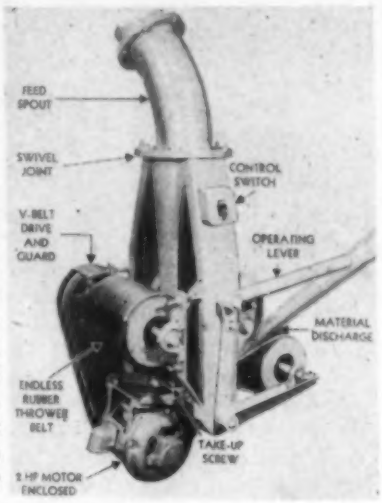
GRAY HUB COMPANY

Incorporated 1922

17265-17403 GABLE AVENUE DETROIT 12, MICHIGAN

▲ Mention Item NED-643 when writing ▲

BOX-CAR LOADING UNIT



Loading and trimming railroad box-cars with loose, granular, bulk material such as grain, salt, fertilizer, chips, crushed stone, coal and chemicals in up to 2-inch lump size is handled readily with this Swiveloader. Capacity is from 40 to 80 tons per hour, depending upon type and weight per cubic foot of material being handled. Unit is installed so that it can be swung into position just inside car door. From this position, all parts of car can be loaded by simply swiveling thrower unit on feed spout from which it is suspended.

Placement and operation of loader can be handled by one man with minimum of physical effort. Since operator is not required inside car during actual loading, dust hazards are held to minimum. Power is furnished by 2 horsepower, 60-cycle, polyphase, 110, 220 or 440-volt alternating current motor through V-belt drive to thrower unit. Material is fed to unit from overhead bunkers or bins by feed spout. It is completely dust-tight up to point where stream of material emerges from thrower belt end. Made by **Stephens-Adamson Mfg. Co.**, 12 Ridgeway Ave., Aurora, Ill.

▲ Mention Item NED-646 when writing ▲

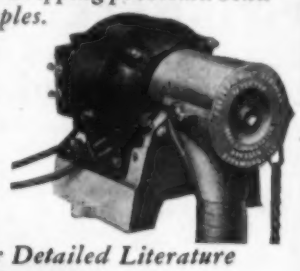
Faster PRODUCTION STRIPPING

IDEAL WIRE STRIPPERS

This motor driven, Rotary Wire Stripper speeds production-line stripping. Operation easy for any workman. Strips wire up to ½" diameter stranded or solid.

Let IDEAL ENGINEERS Help solve your stripping problems. Send wire samples.

MOST COMPLETE LINE OF WIRE STRIPPERS



Write for Detailed Literature

IDEAL *Sycamore*

IDEAL COMMUTATOR DRESSER CO.

1032 Park Ave. Sycamore, Ill.

Sales Offices in all Principal Cities.

▲ Mention Item NED-649 when writing ▲

Freedom of Movement

PLUS Protection Against Oils, Acids, Chemicals, Water, Dust and Fumes

PLY-GARB SAFETY CLOTHING

DESIGNED for positive protection and styled for supreme comfort . . . the miracle fabric, plastic-coated PLY-GARB, sets new high standards for security and satisfaction . . . new low records for cost!

PLY-GARB is available in aprons, sleeves, overalls, jackets, suits and custom-designed clothing for men and women. Small, medium and large sizes in regular or double-duty weights. IMMEDIATE DELIVERY!

Write for latest PLY-GARB Catalog

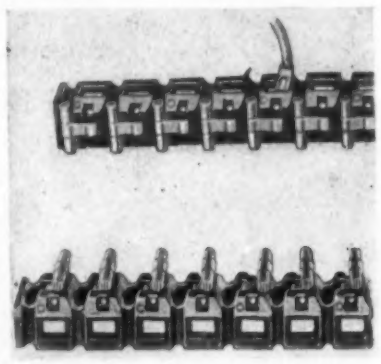
Pioneers of Skin Protection in Industry

THE MILBURN COMPANY

3246 E. Woodbridge • Detroit Michigan

▲ Mention Item NED-644 when writing ▲

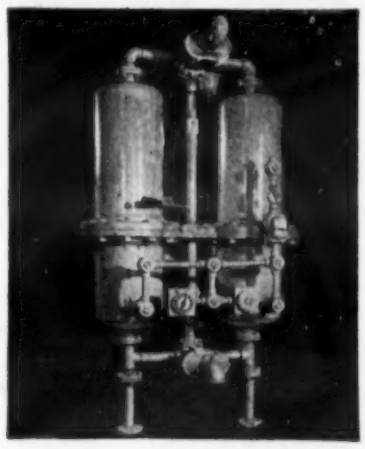
AIRCRAFT TERMINAL BLOCKS



Interchangeable with many types of standard AN terminal panels employing screw type fastenings for lugs interconnecting desired wires, this plastic terminal block has cam action bridge element bearing against lugs or terminals which eliminate need for screw fastening devices. No wrenches are required and assembly time is minimized. Block may be used in place of disconnect plugs. Quick self-locking feature provides for snap-in contacts, holds contact firmly in position and is manually released by levers. Identification markers are applied to disconnect lever and are clearly visible when in locked position.

Arcing at high altitude is prevented because of high voltage breakdown resistance. Direct shorts from frayed wires at terminals are prevented. Block is capable of withstanding 3000-volt alternating current insulation breakdown test. Springs are silver plated, tempered beryllium copper. Cover provides mechanical protection and eliminates need for junction boxes. Made by **The Paul Henry Co.**, 2037 S. LaCienega Blvd., Los Angeles 34, Calif.

▲ Mention Item NED-647 when writing ▲



COMPRESSED AIR DRIED TO *BELOW* ZERO DEWPOINTS

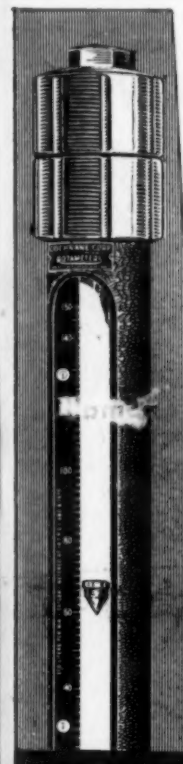
• For instrument lines • For process work
• For inspection and assembly departments

ARMY E NAVY

Kemp Adsorptive Dryers are the standard in modern industrial applications. For Bulletin T 25 C write **The C. M. Kemp Mfg. Co.**, **405 East Oliver Street, Baltimore 2, Maryland.**

KEMP of BALTIMORE

▲ Mention Item NED-650 when writing ▲



A FOOL-PROOF RATE-OF-FLOW METER

The introduction of a new line of Rotameters by the Cochrane Corporation is important news for industrial firms concerned with flow measurement. For the Series-100 Rotameter is not just another Rotameter. It is a better and more trustworthy instrument, combining greater accuracy, ruggedness, simplicity and effectiveness with moderate cost.

SOME EXCLUSIVE FEATURES ARE—

1. SPRING-LOADED CONSTANT-TENSION GUIDE ROD.
2. SPRING FLOAT STOPS.
3. HIGH PRESSURE STUFFING BOXES.
4. POSITIVE EXTERNAL ADJUSTMENT OF STUFFING BOXES.
5. WHITE-BACKED METERING TUBE.
6. REMOVABLE CALIBRATION SCALE.

Write for a copy of Publication R-100

COCHRANE CORPORATION
8143 N. 17th St., Philadelphia 32, Pa.

COCHRANE-ROTAMETERS INC

ROTAMETERS

▲ Mention Item NED-645 when writing ▲

LOOKS

ALL PLASTIC GOGGLES

FOR YOUR MEN & WOMEN WORKERS

LIGHT WEIGHT WIDE VISION COMFORT

LOOKS, the new lightweight, all-plastic goggles, afford wide vision and comfortable eye protection against light, flying particles. Low cost, strong, durable LOOKS feature large "aviation-type" lenses, with individual eye cups molded to comfortably fit facial contours.

General Purpose and Dust Models; easily replaceable clear or green polished acetate lenses.

WRITE for Bulletin No. CE-25. Gives you complete details.

MINE SAFETY APPLIANCES CO.
Braddock, Thomas & Meade Sts., Pittsburgh 8, Pa.
Representatives in Principal Cities

▲ Mention Item NED-648 when writing ▲

Hydraulics—

COMPLETELY ADAPTABLE TO ANY MOTION DESIRED

"Hy-Mac" Hydraulic Power Units can be applied to drilling, grinding, milling, boring, piercing, riveting, broaching, pressing . . . just determine the functions of the machines that are to be hydraulically operated—and our engineers will recommend a Power Unit and a layout of circuits to best do the job . . . For feed and traverse of multiple or single tools . . . for indexing and locating . . . for clamping, etc., all or any of the movements and in any combination, can be adapted to HYDRAULICS . . . Any designer or builder of machines can accommodate their specific design, either partially or completely to "HY-MAC" HYDRAULICS . . . and our modern plant, together with a comprehensive engineering department is completely competent to handle all of the technical planning, designing, and detailing in connection with building of hydraulic and specific-purpose machinery . . . Our engineers will be glad to make recommendation and preliminary proposal without obligation.

8444-Unit for actuating and controlling a simple feed circuit which incorporates rapid traverse, adjustable feed and rapid return of a single slide—primarily for drill press type of operation but can also be used for the control and actuation of a press or any machine where only one slide is to be controlled.

HYDRAULIC MACHINERY, INC.
13855 FORD ROAD DEARBORN, MICHIGAN

HYDRAULIC MACHINERY

▲ Mention Item NED-651 when writing ▲

UP-TO-DATE STORAGE of boxes of Tools, Parts and Materials

Every box is instantly accessible when you use STACKRACKS. Heavy containers slide in and out like drawers—you can get at the contents of any one quickly and easily without disturbing the others. Patented STACKRACKS, to fit your boxes, interlock to form storage units of any size, shape or capacity.

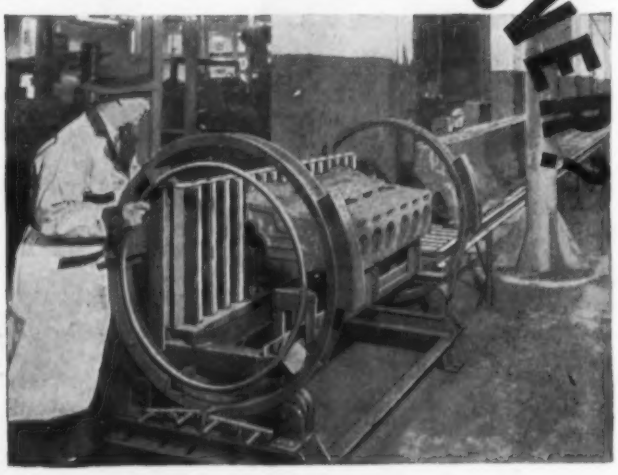
Manufactured and sold in Canada exclusively by Walter H. Wickware, Ottawa

STACKRACKS WRITE STACKBIN CORP., 71 TROY ST., PROVIDENCE 1, R. I.

STACKBIN SYSTEM "Stacked and Still Accessible"

▲ Mention Item NED-652 when writing ▲

CAN YOU USE A ROLL-OVER?



Logan Conveyors PUT FLOW INTO PRODUCTION

Engine block castings are temporarily stored on this Logan Gravity Conveyor between foundry and machining. Then, as needed, they are turned over on the Logan 90° Roll-Over and lifted by crane to a machine. Danger to workmen, damage to castings, wasted space and time are eliminated. Have you a materials-handling problem that could use as simple and sensible a solution? Write LOGAN CO., Inc., 215 Cabel Street, Louisville 6, Ky.

▲ Mention Item NED-653 when writing ▲

The Easy Way To Heat LIQUIDS is ELECTRICALLY

Tanks, vats, kettles, paint, process liquids, cleaning solutions—all are being heated in thousands of plants to predetermined temperatures, rigidly maintained with

CHROMALOX ELECTRIC IMMERSION HEATERS

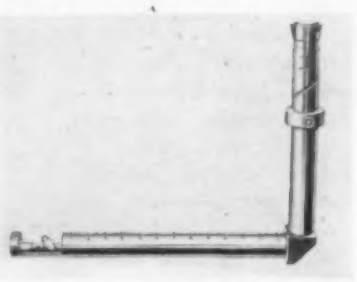
Portable and stationary types, all described in the Chromalox Catalog—on request. Tell us what you want to heat.

EDWIN L. WIEGAND COMPANY
7509 Thomas Blvd., Pittsburgh 8, Pa.

CHROMALOX means ELECTRIC HEAT AT ITS BEST

▲ Mention Item NED-654 when writing ▲

BORE INSPECTION TOOL



Originally designed for internal inspection of gun bores, Polan Borescopes are now available for use by general industry. Surface inspections of long bores for minute cracks or other surface faults which might cause failure in operation are readily performed. Instruments may be used for checking internal surfaces of bored engine shafts, tubular bodies, hydraulic cylinders and other similar units. Sizes are available to cover diameters ranging from 13/16 to 9 inches and bore lengths up to 30 feet.

These industrial telescopes combine qualities of highly corrected lens system and excellent interior illumination with need for construction which will withstand relative rough service encountered in machine shops. Clear, magnified view of bore surfaces is provided. No special training is required for use. There is no eye strain, even under continuous use. Illustration shows unit with right angle eye-piece extension. Made by **Polan Industries**, Huntington 19, W. Va.

▲ Mention Item NED-655 when writing ▲

SPRAY BOOTH COATING

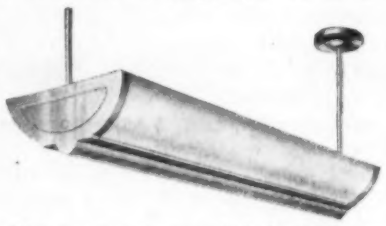
Sidewalls of both wet and dry spray booths are protected against build-up by Triad PR coating. Layer of overspray is stripped clean by spraying with water or steam. Coating and accumulated paint flush off together, leaving booth walls clean. In dry booths which have no facilities for drainage, scraping of paint overspray is greatly facilitated.

Coating can be applied with either brush or spray gun. It gives excellent coverage and dries to hard, white, dustless coating which improves visibility in booth. Made by **Detrex Corp.**, 13025 Hillview Ave., Detroit 27, Mich.

▲ Mention Item NED-656 when writing ▲

FLUORESCENT FIXTURE

Providing proper lighting for offices, drafting rooms and other similar commercial installations, this Cadet luminous-indirect type fluorescent luminaire is suspended 24 to 30 inches beneath ceiling in individual or end-to-end lighting arrangements. Translucent cream-white deflectors deliver in ratio of 90 per cent upward and 10 per cent downward. Off-white ceilings are recommended for best results.



Fixture surfaces of less than 1 candle power per square inch assure blending with lighted ceiling and overall output in light is high. Illumination on vertical simulates that of horizontal to insure ease of reading on flat or inclined planes. Pen or pencil lines are easily discerned because of absence of direct glare and almost total absence of reflected glare.

Fixtures are made in 48, 60 and 96-inch lengths for 40, 100 and 40-watt F. lamps respectively. They are available immediately on proper priority. Made by **The Edwin F. Guth Co.**, 2603 Washington Blvd., St. Louis 3, Mo.

▲ Mention Item NED-657 when writing ▲

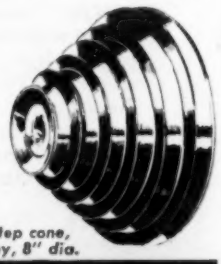
There'll be NO HOWLING - .. if - .. you insist on the Right Drive

Congress Standardized Drives are scientifically engineered, precision built of quality materials — and backed by years of experience.

PROMPT DELIVERY!

CATALOG

Full information on V-Belt Pulleys, Variable Speed, and Flexible Coupling drives, carried in stock for prompt delivery.



6 step cone, pulley, 8" dia.

CONGRESS DIE CASTING DIV.
CONGRESS TOOL & DIE CO.
ESTABLISHED 1914
3750 E. Outer Drive Detroit 12, Mich.

▲ Mention Item NED-658 when writing ▲

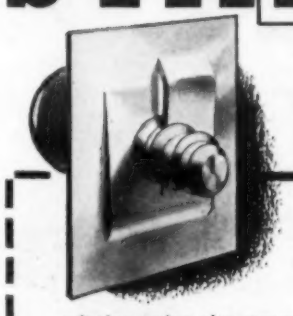
SAFE-LINE WIRE ROPE CLAMPS

Write for details of this—the only PERFECTED wire rope clamp on the market. Millions used by Manufacturers; the Armed Forces and Industries.

NATIONAL PRODUCTION COMPANY
4557 ST. JEAN AVENUE DETROIT 13, MICHIGAN

▲ Mention Item NED-659 when writing ▲

STALOCK*



The "all-around" fastener.† One-piece nut...Self locking ...Resilient

A new and better spring steel fastener! All-around 360° contact with screw threads. Greater gripping action plus conservation of tension locking power. May be re-used over and over again! No lock-washer needed. No wrench required. Available for sheet metal screws and coarse thread machine screws. Also push-on type for speedy assembly with threadless studs. Special shapes and sizes will be made to meet your requirements. SEND FOR CATALOG.

STALOCK fasteners are made exclusively by ADEL world's largest manufacturer of line support clips and blocks. Over 250 million in service.

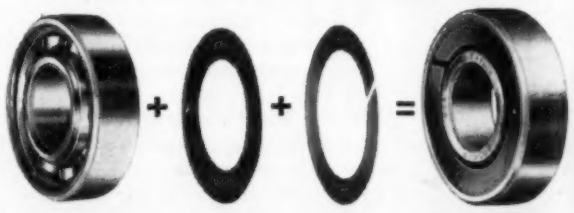
ADEL PRECISION PRODUCTS CORP.
BURBANK, CALIFORNIA
HUNTINGTON 17, W. VA.
Offices: Seattle 1; Dayton 2; Detroit 2; Hagerstown, Md.; Baltimore 1; New York 20.

ADEL

* TRADE MARK † PAT. PEND.

▲ Mention Item NED-660 when writing ▲

POSITIVELY SEALED SEALS EASILY REMOVED



FAFNIR PLYA-SEAL BALL BEARINGS

WHAT IS PLYA-SEAL?

A diaphragm-type contact seal of two members – a flat, flexible sealing washer of synthetic rubber-impregnated fabric and a split retaining ring of stainless steel.

ITS ADVANTAGES—

Assures maximum retention of lubricant, maximum exclusion of dirt and liquids.
No distortion of the outer ring or race. Does not affect the concentricity of either rings or races.
Non-capillary and impervious to grease, oil, gasoline, water and wide variety of solvents.
Unaffected by heat or cold.
Easily removed and replaced to allow inspection, washing and regreasing of the bearing.

Write for descriptive folder giving full details on Fafnir Plya-Seal Bearings. The Fafnir Bearing Company, New Britain, Connecticut.

FAFNIR BALL BEARINGS
Most complete line in America

▲ Mention Item NED-661 when writing ▲

No production holdups with this

EASY-TO-REPAIR FLOOR

Free Booklet
Write for your copy of "Armstrong's Industrial and Conductive Asphalt Tile."

IF an unusual accident should damage a floor of Armstrong's Industrial Asphalt Tile, individual units can be quickly, neatly replaced. This tough, long-wearing factory floor resists indentation, and its smooth surface speeds trucking. What's more, it's non-slip, non-sparking, and fire resistant.

TEST THIS FLOOR FREE—We'll supply 100 sq. ft. free for any area of your plant. You can prove to yourself the many advantages of Armstrong's Industrial Asphalt Tile. Write Armstrong Cork Company, Resilient Tile Floors Department, 6602 New Street, Lancaster, Pennsylvania.

ARMSTRONG'S INDUSTRIAL ASPHALT TILE

▲ Mention Item NED-662 when writing ▲

FOOT OPERATED SPEED LATHE

Single pedal foot control of full work cycle is feature of this air-operated, heavy duty, variable-speed speed lathe. Machine will handle up to 1⅜-inch maximum capacity collet. Step chucks, expanding mandrels or special work-holding fixtures can be used. Motor operates continuously. Depressing foot pedal closes collet, releases brake and connects motor to work spindle through Twin-Disc clutch assembly. Air line is provided with control valve which permits time-lag before collet releases work. Air operated work spindle has 1-inch hole through it for handling bar stock or long work pieces.

Variations in spindle speeds are obtained through use of Reeves drive, with control handle located conveniently for operator. Spindle speeds from minimum of 100 to maximum of 4800 revolutions per minute in ratio of 6 to 1 or 12 to 1 can be selected. Machine is designed for performing such secondary finishing operations as polishing, deburring, filing or lapping of metal and plastic parts. Made by **Schauer Machine Co.**, 2063 Reading Road, Cincinnati 2, O.

▲ Mention Item **NED-665** when writing ▲

SELF-LUBRICATING PACKING

Patents and formulas pertaining to Lubraloy process of self-lubricating packing have been acquired by this company. New equipment is being installed and entire Lubraloy packing line will be in production soon. Made by **Flexrock Co.**, 3603 Filbert St., Philadelphia 4, Pa.

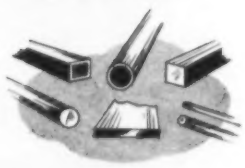
▲ Mention Item **NED-666** when writing ▲

METAL BINDING POSTS

Offered in both standard and special sizes, this line of heavy duty all metal binding posts is designed for applications in electrical instruments and equipment. Machined from solid brass stock and finished in any standard commercial finish, they are capable of handling heavy electrical currents. Polished chromium finished units shown are rated at 1000 and 100 amperes respectively. Larger unit has stud length of 3⅛ inches and diameter of ⅝-inch. Nut diameter is 1½ inches and height above panel when closed is 1½ inches. Smaller size has 1¾-inch stud length and ¼-inch diameter, with nut diameter of ¾-inch and height above panel ¾-inch. Hexagon jam nuts are furnished to specification, when required. Intermediate sizes can be made to order with studs in any desired length. Special shapes or designs can be supplied. Made by **Cole Instrument Co.**, 1320 S. Grand Ave., Los Angeles 15, Calif.

▲ Mention Item **NED-667** when writing ▲

Wells No. 8 **CUTS METALS**



CAPACITY:
8" x 16" Rectangular
8" Diameter Rounds

CUTS COSTS TOO!

There's no doubt about it. For economical metal cutting, this Wells No. 8 is hard to beat. Because of its flexibility you can use it for your odd cutting jobs, and free large production units for other work.

It cuts quickly, and with a minimum of labor. The quick acting vise handles odd shapes without special fixtures. It's accurate. And, it affords a substantial material saving as the saw removes only 45 thousandths of an inch of material.

Another reason the Wells cuts costs is its portability. You save time and labor by moving the saw to the work.

Thousands of Wells Metal Cutting Band Saws are working in busy plants. Check up. You'll find a spot in your plant for a Wells No. 8.

Wells

Products by Wells are Practical

METAL CUTTING BAND SAWS

WELLS MANUFACTURING CORPORATION
1319 HARDING ST., THREE RIVERS, MICHIGAN

▲ Mention Item NED-663 when writing ▲

FLASH

ANNOUNCING LIMA'S
NEW ADDITION TO THEIR
Selective 4 Speed
GEARSHIFT DRIVE LINE

In ½ and ¾ hp Capacities
for smaller machine tools requiring less than 1 hp
OTHER LIMA GEARSHIFT DRIVES
1 hp to 25 hp

THE LIMA ELECTRIC MOTOR CO.
303 Findlay Road
LIMA, OHIO
REPRESENTATION IN MOST PRINCIPAL CITIES
LIMA GEARSHIFT DRIVES - LIMA ELECTRIC MOTORS
LIMA MAGNETIC POLISHING LATHES - LIMA PEDESTAL GRINDERS

▲ Mention Item NED-664 when writing ▲

CLECO SQUEEZE RIVETERS
THE RIGHT MODEL FOR Every JOB

The complete Cleco line includes every type used in general aircraft manufacture—"alligator jaw", "C" yoke, "one-shot" and "blind" riveters are all available.

Only two of the many popular models are shown here. Write for profusely illustrated, 50 page Bulletin 85.

Buy More War Bonds!

THE CLEVELAND PNEUMATIC TOOL CO.
3781 East 77th Street ★ CLEVELAND 5, OHIO
BRANCH OFFICES IN ALL PRINCIPAL CITIES

▲ Mention Item NED-668 when writing ▲

FEDERAL RESONATING HORN

The Ideal Horn for
★ Fast Code Calls
★ Warning Signals
★ Fire Alarm Service
Write for Bulletin

FEDERAL ELECTRIC CO., INC.
SIREN HEADQUARTERS
8711 So. State Street Chicago 19, Illinois

▲ Mention Item NED-669 when writing ▲

Simple – Accurate –
WEIR METERS
for Waste Measurement

Float-and-cable Weir Meters developed by Foxboro offer simple, accurate measurement of liquid flow. Widely used in sewage, chemical processes, and industrial waste disposal.

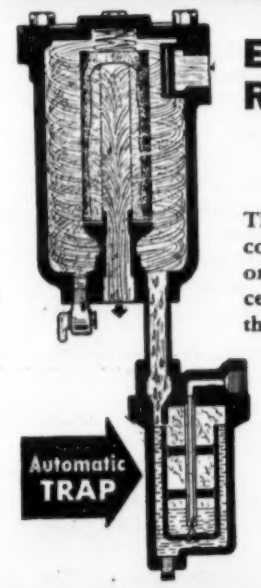
The Foxboro Weir Meter is extremely simple. Operates through motion of float connected with V-notch, rectangular or Cippoletti weirs - or Parshall flumes. Motion is transmitted by cable to accurate recording or integrating mechanisms. Direct-reading, uniform flow scale - copper, rubber-covered, or ceramic floats.

Write for detailed Bulletin A298. **The Foxboro Company, 134 Neponset Ave., Foxboro, Mass., U. S. A.** Also Montreal, Canada. Branches in principal cities.

FOXBORO Reg. U. S. Pat. Off. WEIR METERS

▲ Mention Item NED-670 when writing ▲

Poro-Stone Filtration
FOR COMPRESSED AIR



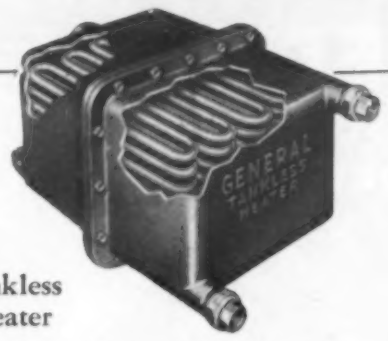
EFFICIENTLY REMOVES
OIL, WATER PIPE SCALE

The Adams *Poro-Stone* Filter gives continuous service without attention or maintenance expense. Efficient centrifugal separation *plus* diffusion through Poro-Stone, removes contamination completely without pressure loss. Automatic Trap eliminates attention and assures continuous and efficient filter operation. Write for complete data—Bulletin 104.

R. P. ADAMS CO., INC.
63 Chicago St. • Buffalo, N. Y.

ADAMS *Poro-Stone* AIR FILTER

▲ Mention Item NED-671 when writing ▲



Tankless Heater

Cuts Cost of Industrial

WASHROOM HOT WATER

You save on both installation and operation with a *GENERAL* Tankless Heater! No storage tank, no complicated piping...and every washroom has independent hot water supply, with independent cut-off. The most efficient type of water heater available... simplest to install and maintain.

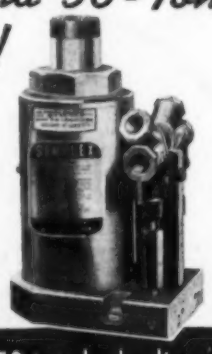
GENERAL Tankless Heaters are the only complete line! Capacities from 3½ to 70 g.p.m. Write for complete Catalog 15 of Tankless Heaters, Instantaneous Heaters and other Heating Specialties. General Fittings Co., Dept. I, 123 Georgia Ave., Providence 5, R. I.

GENERAL

WATER HEATERS AND HEATING SPECIALTIES

▲ Mention Item NED-672 when writing ▲

Now.. Simplex Hydraulic Jacks in 30 and 50-Ton Capacities!



Model 50HJ, capacity 50-tons. Low height, 12"; hydraulic lift, 7". Model 30HJ, 30-tons. Low height, 11"; hydraulic lift, 7".

The new Simplex 30 and 50-ton hydraulic jacks answer the call of heavy work in shipyards and industrial plants, especially where cranes are not available. High and low speed pumps on each jack can be operated singly or in unison. Other capacities 3, 5, 8, 12 and 20-tons. Send for Catalog No. 44.

Templeton, Kenly & Co., Chicago (44)

Better, Safer Jacks Since 1899

Simplex LEVER · SCREW · HYDRAULIC **Jacks**

In Combating Manpower Shortage the proper use of more jacks will help a lot on many jobs.

▲ Mention Item NED-673 when writing ▲

CARBORUSTEX

Powerful New Rust Solvent

- REMOVES RUST COMPLETELY
- DOES NOT HARM THE UNOXIDIZED METAL
- WORKS UNDER ALL CONDITIONS
- NON-TOXIC, NON-INFLAMMABLE
- SPREADS EVENLY, RAPIDLY

CarboRustex, the result of extensive laboratory research, is the best rust solvent available. Safe and easy to use anywhere; contains several chemicals, each with its own individual reaction—assuring uniform solvent action. CarboRustex spreads evenly, leaving no globules.

Contains Rust Inhibitor

CarboRustex contains a rust inhibitor which prevents further rusting of the clean surface until permanently protected with a Carbozite Protective Coating. Write or wire today for details!

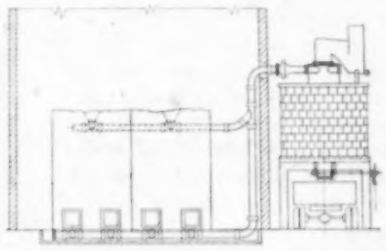
SUPPLIED ONLY IN CONCENTRATED FORM
Ready to Mix With Water in Equal Parts

CARBOZITE CORPORATION
FIRST NATIONAL BANK BLDG.,
PITTSBURGH 22, PA.

▲ Mention Item NED-674 when writing ▲

ASH HANDLING SYSTEM

Automatic removal of ashes, fly ash and soot from industrial furnaces is effected with this Vac-Veyor pneumatic ash handling system. Ash receiver, separator and air washer are combined into single unit and installed on top of silo. Steam exhauster is located in pipeline where it enters receiver. Mixture of ash, steam and air enters circular receiver tangentially at high velocity and centrifugal action literally throws all heavy ash particles out of steam and air before it has traveled more than half way around receiver. Ash falls directly into silo while baffle plates in separator, in conjunction with reduced steam-air velocity, cause practically all light ash to settle into silo through conical baffle. Steam-air mixture then passes into washer where any remaining light fly ash can be removed by sprays and washed away through 4-inch soil pipeline. In most cases, according to the manufacturer, it is not necessary to utilize water sprays in air washer.

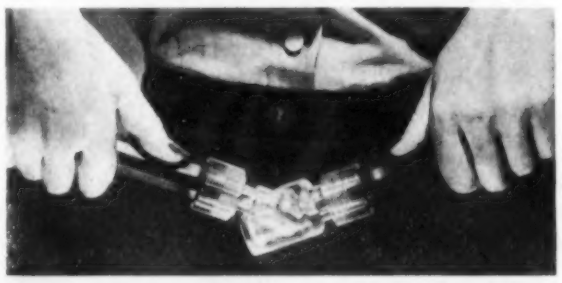


In operation, there is enough moisture imparted by steam to ash to settle out practically all light ash. There is no wetting of the material, thus minimizing possibility of packing and freezing in silo. Receiver 4 feet in diameter is constructed of ¾-inch hard iron and is fitted with white iron baffles. Separator consists of 24-inch shell of 3/16-inch steel plate and base which extends down into receiver. Air washer is 24 inches square and is made of 12-gage welded steel plate. It is equipped with connection for 4-inch soil pipe to drain off spray water. Made by **Beaumont Birch Co.**, 1508 Race St., Philadelphia 2, Pa.

▲ Mention Item NED-675 when writing ▲

PLASTIC HOSE FITTINGS

One of line of quick-acting fittings, this all-plastic Plexiglas coupling permits joining of lengths of hose in single, easy wrist motion. Other items in line include faucet attach-

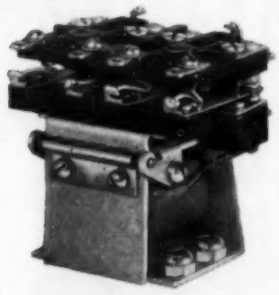


ments, nozzles and repair fittings. Couplings consist essentially of ball and socket, accurately fitted, and locked together by lip and flange device. It is opened by disengaging lip and flange.

Hose is attached to fitting by slipping it over knob in coupling sleeve and is locked in place by backing up large hexagonal nut. Ample thickness is provided for strength and for ease of handling. Fittings remain tight under 80-pound water pressure. Plexiglas is unaffected by extended weathering and water immersion, and will not warp, change dimensions or discolor in ordinary service. Plexiglas made by **Rohm & Haas Co.** Fittings made by J. H. Whittemore Co., Naugatuck, Conn.

▲ Mention Item NED-676 when writing ▲

control for GIANTS



Allied's DO Relay unfailingly performs its exacting tasks under toughest conditions of vibration and temperature changes.

Illustrated is the 4-pole, double-throw contact arrangement...heavy duty, fast acting, compactly designed for 2½ watt operating power. Standard contacts are rated at 15 amperes for 24 volts DC or 110 volts AC. Operates satisfactorily in ambient temperature ranges of −50C to +65C with Class A insulation. Bakelite parts provide ample electrical barriers.

Allied's research and engineering staffs are at your disposal to design new control devices for your products.

ALLIED CONTROL CO., INC.
2 East End Ave. (at 79th St.), New York 21, N. Y.

FACTORIES: NEW YORK CITY • PLANTSVILLE, CONN. • CHICAGO, ILL.

▲ Mention Item NED-677 when writing ▲

Then...

BRING ON YOUR TOUGH JOBS

Engineered to furnish *more power* than average tools of their size... ARO Pneumatic Tools get *more work done* with less fatigue!

Today—ARO Tools in war production are speeding up drilling, nut-setting, screw-driving, grinding and countless other small tool jobs. In reconversion—ARO Tools will gear industry to greater efficiency and faster output of peace-time products. Simple in design... rugged... dependable... stall-proof. Write for new catalog No. 44.

The Aro Equipment Corporation, Bryan, Ohio.

▲ Mention Item NED-678 when writing ▲

Here's How to Cut Stacking Costs

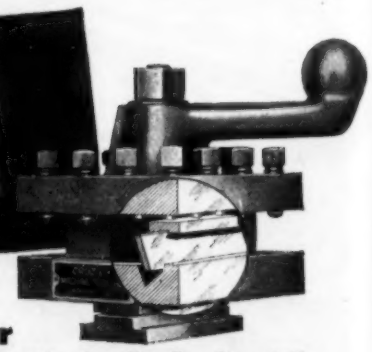
This A-F Apron Conveyor for stacking cases and cartons saves time, reduces employee fatigue and cuts down breakage. Can be elevated to a 60° angle. If desired, stacker can be power elevated by gasoline engine or electric motor. Can be used also for lowering boxes and cartons as cleats on apron prevent boxes from slipping. Draw bar permits attachment to a towing truck. Easily operated with start, stop and reverse levers. Locking device holds stacker stationary, prevents skidding. You need this A-F time and cost-saver for your plant. Write today for complete information regarding this and other types of A-F Engineered Conveyor Systems.

THE ALVEY-FERGUSON COMPANY 31 Disney Street Cincinnati 9, Ohio

CONVEYING EQUIPMENT
Alvey-Ferguson
METAL PRODUCTS CLEANING & FINISHING EQUIPMENT

▲ Mention Item NED-679 when writing ▲

2 IN 1



Tool Holder and Cut-off Bit included with the Crozier Tool Post Turret at NO ADDITIONAL CHARGE!

Standard equipment with the accurate, high quality Crozier Tool Post Turret now is a specially designed holder and a high speed steel cut-off bit—at *no extra charge!* Not only is this exclusive feature (Patent Applied For) an immediate money-saver, it also increases production, provides more rigid tool support and reduces set-up time. The Tool Post Turret, the first to be made for bench lathes, retains its normal advantages of fast, close indexing, dependable accuracy and long life which have made it so popular. It is available for Small, Medium and Big lathes—with cut-off holder and bit *without additional cost, remember.* Write for details.

Crozier

CROZIER MACHINE TOOL CO., PRAIRIE AT 118th ST., HAWTHORNE, CALIF.
Successors to C-W-C Corporation

▲ Mention Item NED-680 when writing ▲

HOLTITE
SCREWS, BOLTS, NUTS and allied fastenings

Rugged, accurate and consistently uniform, HOLTITE precision-made fastenings are produced in all types, head styles, and finishes for ANY application in ANY material.

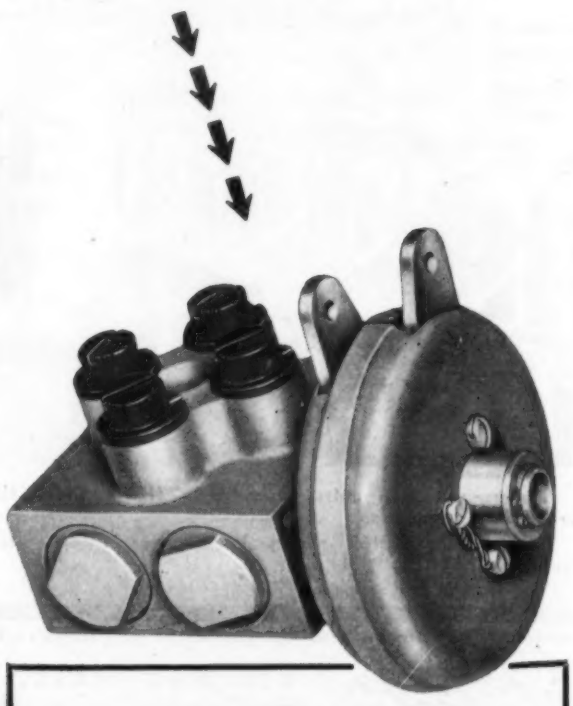
HOLTITE - Phillips Recessed Head Fastenings effect savings in time up to 50% and more. Power drivers can be safely used even on finished parts to speed assembling and eliminate marring of work and injuries to operators.

Send in your fastening problems. Our Engineering Staff will gladly study them and make recommendations for the most practical methods of reducing your costs. We have the most complete facilities for producing Special parts and fastenings.

CONTINENTAL SCREW CO.
New Bedford, Mass., U.S.A.
BUY MORE BONDS

▲ Mention Item NED-681 when writing ▲

control



ELECTROL'S FOLLOW-UP VALVE

Electrol's Follow-Up Valve is extremely light, weighing only 20 oz. The well known balanced poppet type Electrol Selector Valve mechanism assures dependability.

Originally designed for Wing Flap installation, it is equally valuable to such other uses as carburetor, rudder or any service where smooth, accurate and complete control is required.

Electrol engineers will welcome an opportunity to design a Follow-Up Valve installation for any service in aircraft or general industrial application.

ELECTROL INCORPORATED • KINGSTON, NEW YORK

ELECTROL
HYDRAULICS
HYDRAULIC EQUIPMENT FOR AIRCRAFT

▲ Mention Item NED-682 when writing ▲

CONDENSER BRACKETS

Developed to withstand severe vibration encountered in military and other mobile equipment, type M brackets permit mounting of oil capacitors in either vertical or inverted position. Brackets are adaptable to all types of industrial capacitor mountings, also. They may be used with any of complete line of oil-filled, electrolytic, wax and special mica capacitors produced by company for up to 250,000-volt working circuits. Made by **Industrial Condenser Corp.**, 3243 N. California Ave., Chicago 18, Ill.

▲ Mention Item NED-683 when writing ▲

WATER FILTRATION PROCESS

Ordinary water can be transformed into chemical equivalent of distilled water by simple filtration process which is available in portable and stationary equipment marketed under trade mark Filt-R-Stil. Water which is virtually mineral-free is made readily available for research laboratories; for electronic and electrolytic equipment manufacture; for production of textiles, leather, paper, pharmaceuticals, food, dyestuffs and many other products, as well as for filling storage batteries.

Melamine-derived and other resins are utilized in process. Water is passed through beds of these ion exchange resins which transform dissolved salts in water to corresponding acids and then, in turn, absorb the acids. Final demineralized water has average salts contents as low as two parts per million. Purity of one-half part per million has been produced. Dissolved carbon dioxide is removed from water. So effectively has water been cleaned of its minerals that specific resistance to electric current has been increased to as much as 6,000,000 ohms.

Equipment is made in different sizes and capacities to meet various requirements. Small portable unit is made in two forms, one for field and the other for bench use. Capacity of these units is 8 to 10 gallons of demineralized water per hour. They are equipped with cartridges of ion exchange resins which are renewable when exhausted. Automatic shut-off or warning device indicates when renewal of cartridge is necessary.

Laboratory unit has capacity of approximately 30 gallons of demineralized water per hour. It is designed for larger chemical and research laboratories and for other users requiring larger amounts of demineralized water. In place of cartridges, there are four beds of alternate cation and anion exchange resins in Pyrex glass columns connected by piping system. Special large sizes are made for large industrial users, boiler plants, refineries, textile mills and synthetic rubber plants. Made by **American Cyanamid & Chemical Corp.**, 32-A Rockefeller Plaza, New York 20, N. Y.

▲ Mention Item NED-684 when writing ▲

G-E TEXTOLITE AND FABROIL GEARS

TEXTOLITE GEARS—consist of woven fabric laminations held in compression in a phenolic resin.

FABROIL GEARS—consist of compressed cotton fibres held together by steel shrouds and threaded stubs. Textolite and Fabroil Gears are silent, strong, light weight, resilient and resistant to chemical and corrosive action. Both types are available in rough blanks, finished blanks and finished gears. For a copy of our bulletin entitled "Silent Gears" write Section N-38, General Electric Co., 1 Plastics Ave., Pittsfield, Mass.

PD-88A

PLASTICS DIVISIONS
GENERAL ELECTRIC

▲ Mention Item NED-685 when writing ▲

AN OIL SEAL WITHOUT SPRINGS

The two-piece design of Graton & Knight's GraKone No-Spring Oil Seal saves space and machining cost and improves performance.

The sealing member is GraKone — a name given to specially-compounded formulations of synthetic rubber to meet specific requirements. It has low permanent set — and will stay in shape and position without the help of a spring. A special design of lip reduces friction, allowing the seal to cling but never to seize.

The housing has patented crimped edges which hold the sealing member tightly against leakage, yet without distortion.

For free folder on No-Spring Oil Seals, write
GRATON & KNIGHT COMPANY
325 Franklin St., Worcester 4, Mass.

GRATON AND KNIGHT

GRAKONE NO-SPRING OIL SEALS

▲ Mention Item NED-686 when writing ▲

CM HERC-ALLOY
SLING CHAINS
boast service records as long as your arm

Ask any plant executive or safety engineer who has used CM Herc-Alloy Sling Chains . . . their experiences will prove the reason why that once they are put on a job they "stick." In fact, CM Herc-Alloy Sling Chains shipped years ago are still in service.

The patented Inswell electric welded links and all fittings are of Herc-Alloy formula steel with a tensile strength of 125,000 lbs. per square inch . . . a safety factor of 150% compared to ordinary sling chain. Herc-Alloy seldom, if ever, requires annealing.

There is a size and type to handle *your* job and prove in service that here is sling chain value *plus* by any method of figuring.

Get all the details now from your mill supply distributor or write us.

COLUMBUS-McKINNON CHAIN CORP.
Affiliated with Chisholm-Moore Hoist Corp.
General Offices and Factories: 114 Fremont Avenue, Tonawanda, N. Y.
Sales Offices: New York, Chicago and Cleveland

▲ Mention Item NED-687 when writing ▲

SELF-SEALED

These three "GreaSeal" Ball Bearings have the following outstanding advantages of design:—Thick, closely-fitting felts - - - labyrinth FELT SEAL REMOVABLE for inspection or added grease supply - - - extra wide inner and outer rings - - - felt seal protected against injury within confines of both rings - - - exceptionally quiet running - - - grease capacity for long periods of service. Reduce machining and assembly costs and simplify your construction with these felt-protected Precision Bearings. Write for catalog and engineering recommendations.

NORMA-HOFFMANN BEARINGS CORPN.
STAMFORD • • • • CONN. U.S.A.

NORMA-HOFFMANN
PRECISION BEARINGS
BALL • • • ROLLER • • • THRUST

▲ Mention Item NED-688 when writing ▲

Why take CHANCES?

. . . and why take chances with smoke, fumes or dust hazards either? Do as thousands do, wear a . . .

DUPOR No. 1
Miniature Dust Mask

Miniature in size, weighs only 1 oz. Handy as a pair of glasses. Unique filter pad provides 9 sq. in. filter area. Ideal for nuisance dusts. Price $12 per dozen. Sample sent $1.00 postpaid.

Write for Catalog!

H. S. COVER
105 Chippewa Street South Bend, Indiana

▲ Mention Item NED-689 when writing ▲

Time studies reveal that when mechanics must fight dirt and grease on machinery, tools and equipment, production speed is slowed 25% to 40%. Periodic JENNY Steam-Spray cleaning not only saves these precious man-hours, but often prevents costly shutdowns by revealing defects in machinery in time to permit repairs before failures occur. JENNY cleans floors, runways, windows, walls, skylights, 8 to 10 times faster than by hand-cleaning methods.

Hundreds of manufacturing plants have adopted JENNY as the quickest, most efficient method for all their cleaning jobs. Let us show you how to increase *your* plant production by getting rid of speed-retarding dirt and grease the JENNY Steam-Spray Way.

Manufacturers Jenny Division of

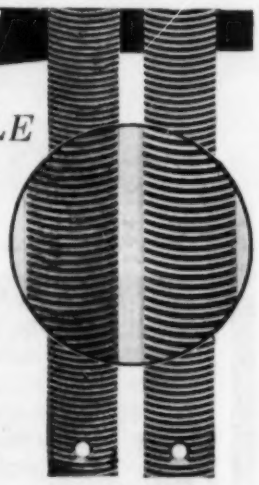
HOMESTEAD VALVE MFG. CO. 50 Years 1892 1942
P. O. BOX 84 • • • • CORAOPOLIS • • • PENNSYLVANIA

▲ Mention Item NED-690 when writing ▲

It's Revolutionary!

SAV-A-FILE

An Original Exclusive Process That *Really* Renews Life Of Old, Worn Out Files



BEFORE AFTER

SAV-A-FILE is superior to any other known method of file renewal—proved and used by the largest industrial concerns. Restores at least 80 to 90% of original cutting life of files. Cost is remarkably low—standard cut files re-sharpened for maximum of only 1½c per lineal inch—15c for a 10" file. Vixens are 2c per lineal inch. On special type files prices quoted on request.

Write for detailed literature.

(1) Cutting edges on dimensions not affected
(2) Makes cutting edges sharp
(3) Removes all burrs
(4) Restores Files twice

TRIAL OFFER (Freight Paid)
— TO PROVE SAV-A-FILE REALLY WORKS WONDERS —

Send us several dozen old, worn files—freight collect. They'll be returned, carefully sorted and re-sharpened, freight prepaid. If not satisfied, don't pay us. SHIP FILES TO SAV-A-TOOL CORP., 3560 EASTERN AVE., Cincinnati 26, Ohio. Send correspondence to address below.

SAV-A-TOOL CORPORATION

SAV-A-TOOL CORPORATION
932 Times Star Bldg. • Cincinnati 2, Ohio

▲ Mention Item NED-691 when writing ▲

SAFETY VISOR

Featuring simple replacement, Snap-Fast visors provide protection for faces of workers from flying objects. Perforations in visor fit snugly over small lugs. Spring clamps at each end hold visor firmly in place. For release, turn of fingers snaps out old visor and new one may be slipped into place quickly. This feature is advantageous when face shields are used in welding, grinding and other operations.

Tough, noninflammable plastacele visor protects head and neck. It fits snugly against chest to prevent entrance of flying particles from below. Form-fitting headgear is comfortable to wear. Soft leather sweatbands are standard and quick adjustments may be made for fit.

Four styles are available. These include open top headgear, half crown headgear and helmet-like top and bottom guards. Two visor thicknesses can be furnished. Made by **Chicago Eye Shield Co.**, 2335 Warren Blvd., Chicago 12, Ill.

▲ Mention Item NED-692 when writing ▲

PLASTIC MOLDING PRESS

Utilizing electronic heating of plastic material to effect economies in production time, this vertical hydraulic high speed press is designed to mold resins, ureas and melamines at Hemco plant of The Bryant Electric Co. Originally set up to operate manually, the first heating unit and forming press effected reduction in curing time on one product from minutes to seconds. Twenty per cent more pieces were produced with experimental six-cavity mold than were previously turned out with standard twenty-four-cavity compression mold. Thus, considerable savings is effected in cost of mold.

Smaller press is required, as well as smaller mold. Because of reduction in pressure, life of mold is extended and more readily hobbed materials can be used for mold. Increased production is effected with savings in flash or waste material and rejects. Cheaper raw materials can be used and finishing time is minimized.

Single operator controls both press and 2-kilowatt heating unit. Plastic in form of thick wafers is placed in heating device where it is exposed to high frequency electrostatic field for a few seconds. Hot wafer is transferred to press and plunger forced down against mold. Under pressure of 6 tons, part is completed in a few seconds. Electronic heating unit made by Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa. Molds produced by The Bryant Electric Co., Bridgeport, Conn. Presses made by **The Baldwin Locomotive Works**, 942 Chester Pike, Eddystone, Pa.

▲ Mention Item NED-693 when writing ▲

DO YOU KNOW?

Rivalling human eye in color and appearance, a new plastic artificial eye will not break when dropped, will not corrode and can be reshaped if necessary to provide exact fit. Plastic material is nonirritating and resists color fading. It reflects less light than glass and is offered in stock or made-to-order styles. Developed by American Optical Co., 1492 Mechanic St., Southbridge, Mass.

▲ Mention Item NED-694 when writing ▲

"Don't take Our word for it...

PROVE IT YOURSELF!"

- More pieces between grinds
- More grinds per tool
- Less down time
- Lower tool cost

TECO Cemented Carbide has earned its place in metal-working plants on the basis of proof, not promise. Select your tools on this practical basis.

MAKE THIS CHANGE! Tool up several machines with TECO Cemented Carbide in place of present carbide tools. Run exactly as before, then let results speak for themselves.

You'll find the harder, denser, more uniform TECO Cemented Carbide has greater resistance to wear and breakage in high speed turning, boring and facing. Have a tool engineer discuss your needs. Send for catalog and price list.

IMMEDIATE DELIVERY FROM STOCK can be made on most standard TECO Cemented Carbide tools and blanks.

TUNGSTEN ELECTRIC CORPORATION • 589 39th Street, Union City, N. J.
Branch Office: 2906 Euclid Avenue, Cleveland, Ohio
Representatives: Indianapolis, Ind. Chicago, Ill. Detroit, Mich.

TECO Pioneers in Tungsten Carbides for over a Quarter Century **CEMENTED CARBIDE**

▲ Mention Item NED-695 when writing ▲

Now! EXTRA HUMIDITY PROTECTION IS STANDARD

. . . designed for tropical conditions
. . . unbeatable on ANY job

Standard Sprague Koolohm Wire Wound Resistors now offer the same high degree of humidity protection formerly obtainable only on special order to match exacting military specifications. This construction includes a glazed ceramic outer shell and a new end seal. These features give maximum protection against the most severe tropical conditions.

One type of Koolohms, the *standard* type, does the job—under any climatic condition, anywhere in the world!

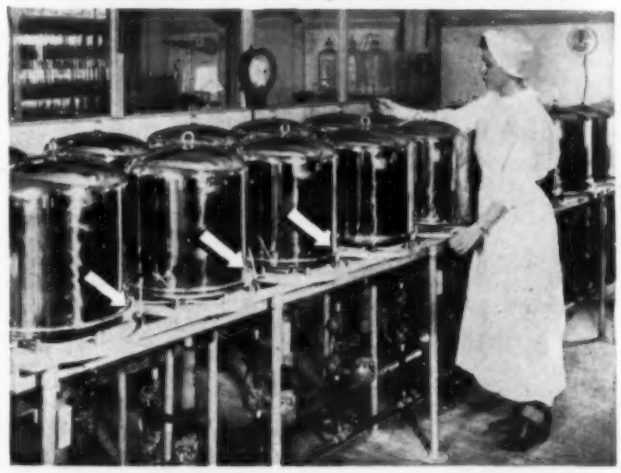
SPRAGUE ELECTRIC COMPANY, Resistor Division, North Adams, Mass.
(Formerly Sprague Specialties Co.)

SPRAGUE KOOLOHM RESISTORS

▲ Mention Item NED-696 when writing ▲

LIFE-GIVING BLOOD!

. . thanks to temperature control



Plasma reduction units depend on THERMOSWITCHES for accurate regulation.

THERMOSWITCHES shown by arrows in Laboratory Reduction Room.

Write for catalogue and complete information . . . to

Fenwal INCORPORATED **ASHLAND • MASS.**

▲ Mention Item NED-697 when writing ▲

BEFORE YOU PUT HOLES IN

SHEETS

ANGLES

CHANNELS

BY *any* METHOD . . . *investigate*

WALES

HOLE PUNCHING EQUIPMENT

FEATURES

1. Usual time-consuming adjustments of conventional set-ups are eliminated.
2. Punch and die held in alignment by holder.
3. Each unit is independent and self-contained.
4. Straight line, staggered or scattered patterns punched with same units.
5. Same units may be used interchangeably on press brake & stamping presses.
6. Nothing attached to press ram.
7. Individual units may be instantly removed or reset.
8. Interchangeable punches.
9. Die setting time and press "down time" reduced to minutes.
10. Same units may be used and reused in active patterns.

● Take up this invitation b putting your hole punchin problems up to Wales-Strippi

Hundreds of metal fabricator are now using Wales Equip ment *profitably*.

Wales-Strippit manufactur a complete line of hole punch ing units and are prepared t develop and manufacture ho punching equipment for sp cial operations and technique

"There's Always Somethin New in the Wales Line."

Write for Catalog C.

WALES-STRIPPIT CORP
363 PAYNE AVENUE NORTH TONAWANDA, N.

▲ Mention Item NED-698 when writing ▲

BLAW-KNOX-BUCKETS

take the least of your crane time—handle more pay load

Send for the catalog which describes the bucket you need—

- No. 1868—Blaw-Knox Buckets for Cement, Chemical and Fertilizer Plants.
- No. 1696—Blaw-Knox Buckets for Single Drum Hoists for use on Railroads, Mills, Foundries, Etc.
- No. 1745—Blaw-Knox Buckets for "Bartoning" handling Nitrates, Grain, Potash, Etc.
- No. 1757—Blaw-Knox 2 Line Lever Arm Buckets for Rehandling, Barge-Cleanup, General Purpose, Hard Digging, Dredging.
- No. 1868—Blaw-Knox 4 Rope Buckets for Coal, Ore and Cleanup.
- No. 1752—Blaw-Knox Buckets for Incinerator Service.

Installation of a Blaw-Knox Bucket at a "trouble-spot" takes that worry off your mind—definitely—for each bucket is tailor-made for its particular job.

For digging and rehandling the many bulk materials throughout industry there's a Blaw-Knox Bucket.

You can select a bucket from the many interesting catalogs listed above.

BLAW-KNOX DIVISION of Blaw-Knox Co.
2068 FARMERS BANK BUILDING, PITTSBURGH, PA.
NEW YORK · CHICAGO · PHILADELPHIA · BIRMINGHAM · WASHINGTON

▲ Mention Item NED-699 when writing ▲

IT'S A COST REDUCER!

Time was when this maker of airplane magneto housings used slotted screws and helical inserts. But by switching to Phillips Recessed Head Screws, he eliminated inserts . . . turned this expensive, 2-step hand operation into a low-cost, 1-step power process. He also sliced fastening material costs about 71%, assembly costs correspondingly!

IT'S A STRENGTH BUILDER!

More efficient from assembly and cost angles, Phillips Screws are also better from design angles. Engineered to stand heaviest driving pressures, they impart exceptional strength and rigidity to products. From the sales angle, too, they're tops. They snap up any product's appearance . . . banish burrs that mar surfaces, snag clothing.

It's Phillips

the engineered recess!

In the Phillips Recess, mechanical principles are so correctly applied that every angle, plane, and dimension contributes fully to screw-driving efficiency.

This scientific engineering eliminates screwdriver skids . . . makes it possible for workers to apply full turning power without reaming . . . gives Phillips Screw Heads unusual strength. It is the reason Phillips Screws speed driving as much as 50% – and cut costs correspondingly.

To give workers a chance to do their best, plan faster, easier-driving Phillips Recessed Head Screws into your product now. They are available from 24 leading manufacturers of fastening devices.

PHILLIPS *Recessed Head* SCREWS

Wood Screws • Machine Screws • Self-tapping Screws • Stove Bolts

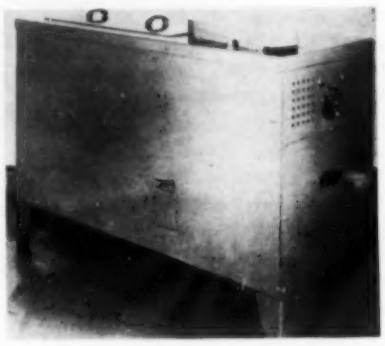
▲ Mention Item NED-700 when writing ▲

DIAMOND TOOL KIT

Containing complete assortment of diamond tools to meet practically every requirement of medium size and small shops, this model G-P general purpose kit is handy and of self-cover type. It contains ten diamond tools, two tool holders and two keys for locking tools in holders. Included are diamond dressing tools, radius tools, cutting tools, phonopoints and diamond scriber. Each kit contains identification number and has separate compartment for each tool, facilitating inventory and preventing loss. Made by **Abrasive Dressing Tool Co.**, 1552 Broadway, Detroit, Mich.

▲ Mention Item NED-701 when writing ▲

PLASTIC COATING UNITS



Designed to fulfill requirements of companies having small parts or tools to be protected prior to shipment or to protect tools and gages while being stored before use, two small Plastic Coaters melt and maintain ethyl cellulose and other plastic protective coatings at proper application temperature. They incorporate features of larger units and assure satisfactory application of coatings. Plastic pump arrangement provides constant level in dip tank and effects continual removal of surface film and bubbles caused in dipping.

Oil jackets are provided at sides and bottom of each tank. Oil and plastic are thermostatically controlled so that electric heaters are shut off when either reaches its ceiling temperature. Illustrated model 3-8 has melting capacity of 3 to 5 pounds of coating per hour, with dip compartment 6 inches wide, 9 inches long and 6 inches deep. Model 3-5 has 13-inch depth to dip tank. Model 5-8 handles from 5 to 7 pounds of plastic per hour and has dip compartment 9 inches wide, 12 inches long and 6 inches deep. Model 5-15 has same dimensioned dip tank, except that it is 13 inches deep. Made by **Youngstown Miller Co.**, 1638 Hayes Ave., Sandusky, O.

▲ Mention Item NED-702 when writing ▲

DO YOU KNOW?

Tenite plastic applicators and containers have been developed for Ear Warden ear plugs which facilitate hearing of orders in presence of firing and protect ear drums by damping objectionable noises. Plugs of soft neoprene are easily placed over applicator prongs for inserting in ear. Applicator and plugs fit into plastic container which has metal pocket clip for convenience in carrying. Distributed by Tyer Rubber Co., Andover, Mass.

▲ Mention Item NED-703 when writing ▲

SPEED punching and SAVE belting with MASTERDRIVE

How it speeds—High torque, high slip motors pick up the load with minimum shock. No slipping. Gear head motor reduces output shaft speed, permitting a large motor pulley and a high percentage of belt wrap.

How it saves—Use your present belting. Save rubber, and expense and delay of grooving pulleys. Belt failure will not capsize drive.

● Drive easily mounted above or behind press. No interference with roll feed. Does not obstruct die removal through back of press. A single complete installation with Master Gear Head Motor—one responsibility. Write for details today!

THE MASTER ELECTRIC COMPANY
INDUSTRIAL EQUIPMENT DIV. – DAYTON, O.

▲ Mention Item NED-704 when writing ▲

CARBONIZING CONTROLLERS

Micromax Conductivity Controllers—like this one on the wool carbonizing bath at the Wyandotte Worsted Co.—are helping many woolen mills to increase production, get more level color and more even shrink.

We'll be glad to send you Catalog EN-95, describing these fully automatic controllers.

LEEDS & NORTHRUP COMPANY, 4901 STENTON AVE., PHILA., PA.
LEEDS & NORTHRUP
MEASURING INSTRUMENTS · TELEMETERS · AUTOMATIC CONTROLS · HEAT-TREATING FURNACES
Jrl Ad N-95-724 (1a)

▲ Mention Item NED-705 when writing ▲

Error-proof copies in a Jiffy!

with *America's Most* **WIDELY USED Photo-Copy Equipment**

Photo-Copyer $55 Copies up to 18"x22"

A-PE-CO *Photo-Exact* PHOTO-COPYER

COUNTLESS USES: 137 different uses of A-PE-CO photocopies were reported by leading firms of 30 industries, in a nation-wide survey just completed. Many uses could be added to this list. If you are interested in saving time and money, increasing efficiency, eliminating error and speeding work, write today for the A-PE-CO folder.

ACCURACY ASSURED: You copy correctly with A-PE-CO. No checking or proofreading. Photocopy *anything* up to 18" x 22"—written, printed, drawn, or photographed, even if on both sides. Any inexperienced employee operates A-PE-CO. No technical training needed.

PROVED BY THOUSANDS: A-PE-CO is America's most widely used photocopy equipment. Thousands of A-PE-CO's are in satisfactory use—and A-PE-CO photocopy papers are specified *exclusively* in many firms and branches of government.

Why not take a moment NOW and send for a copy of the A-PE-CO folder? See the countless valuable uses for A-PE-CO photo copies in your business. Write today.

AMERICAN PHOTOCOPY EQUIPMENT COMPANY
2849 N. CLARK STREET Dept. BS-25 CHICAGO 14, ILLINOIS
Representatives in principal cities.
In Canada: Railway & Power Engineering Corp., Ltd.

▲ Mention Item NED-706 when writing ▲

PALMGREN

CONNECTORS for WELDING CABLE and TERMINALS

3 SECONDS *to Hookup—Lengthen · Shorten · Replace*

They speed up production, save hours of time and end delays. Make short cables reach farther. Connect or disconnect instantly for shift to any job in shop or field. Used by America's Leading Industries.

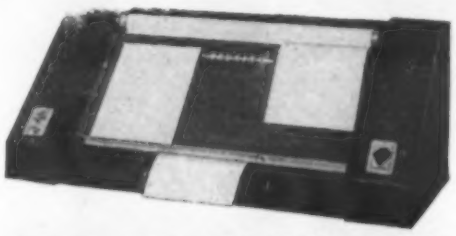
Ideal For All Types Conductor Cable

Such as welding, supply lines, ships, electric cars, mining operations, etc. Standard opening fits 1-1/0-2/0-3/0-4/0 cable. Designed for positive locking and highest conductivity. Also types for panel, bus, angle and multiple hookups.

Write for Circular describing complete line, also price list

CHICAGO TOOL AND ENGINEERING CO.
Manufacturers of PALMGREN PRODUCTS for Over 25 Years
8378 SOUTH CHICAGO AVE. CHICAGO 17, ILLINOIS

▲ Mention Item NED-707 when writing ▲



FOR REPRODUCING

Originals Typed—Printed—Illustrated—Drawn

This convenient table top machine—the Bruning Model 2 Copyflex Continuous Printer—provides a wide variety of reproduction advantages in table top space. With the use of Copyflex materials, it duplicates tracings, line drawings, specifications, black and white prints, Van Dyke negatives, blue prints, etc. With the flick of a switch, the Model 2 becomes a BW Printer for producing Black and White Prints. Three trays and a drier are additional equipment (readily available) needed for reproducing Copyflex materials—BW Prints are developed on a simple, inexpensive BW developing machine. Get full details—write us. Charles Bruning Company, Inc., 4730-32 Montrose Avenue, Chicago 41, Illinois.

BRUNING SINCE 1897

▲ Mention Item NED-709 when writing ▲

- CUTS ALL METALS—WOOD—PLASTICS
- SAWS AND FILES IN INACCESSIBLE PLACES
- OPERATES BY ELECTRICITY—FLEXIBLE SHAFT—AIR
- SIMPLE AND EASY TO USE—LIBERALLY GUARANTEED

SEE YOUR JOBBER OR WRITE DIRECT

Mid-States EQUIPMENT CO.
Saw-Gun Division
2439 SOUTH MICHIGAN AVENUE, CHICAGO 16, ILLINOIS

▲ Mention Item NED-710 when writing ▲

MADE TO ORDER

Unusually accurate metal parts including operations such as heading, rotary swaging, roll threading, fluting, knurling, pressing, milling, turning, grinding, forming, etc.

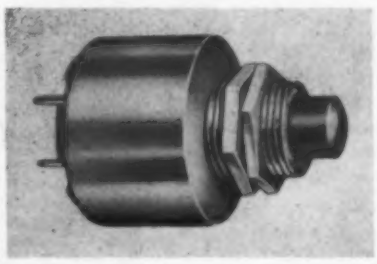
Single and double tenon studs turned on specially designed machines, held to close diameter tolerances, with no cut-off burrs.

Uniform heat treatment assured with the very latest equipment.

The Torrington Company
SPECIALTY DEP'T.
Torrington, Conn., U.S.A.

▲ Mention Item NED-711 when writing ▲

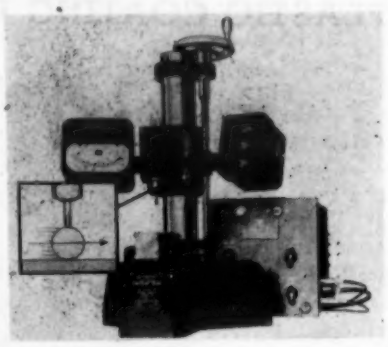
NUT TYPE SWITCH



Intended for panel mounting applications, this nut type switch has double break feature. This compact limit switch has case of cadmium plated brass with 15/32-32 threaded sleeve fitted with two locknuts. Heat treated beryllium springs and fine silver contacts assure high current capacity and long life. Switch is actuated by Bakelite plunger. It is available in normally open or closed circuits and is rated at 15 amperes on 115 volts alternating current. Pressure ranges are 10-15 and 16-24 ounces. Pretravel is approximately 1/32 inch and overtravel 1/64 inch. Made by Acro Electric Co., 1312 Superior Ave., Cleveland 14, O.

▲ Mention Item NED-712 when writing ▲

ELECTRONIC GAGE



Affording economical means of inspection because of its convenience, adaptability and rapid, accurate inspection, model 130 Foote-Pierson gage operates electronically. Variations in position of mechanical contact point are magnified sensitively, accurately and conveniently by means of electronic circuit. It affords accurate, repetitive gaging and cannot be damaged except by extreme physical carelessness.

It is provided with both indicator dial and limit lights. Indicator dial may be used when it is desired to determine how much dimension varies from specified tolerance and for selecting workpieces according to their dimensional variations. Dial can be used also when setting gage. Limit lights provide rapid means of inspection. Green light indicates that piece is within size; red, oversize and yellow, undersize. Work need be passed through only once to determine whether it passes inspection.

Single mechanical means is provided for setting to within plus or minus .003 inch. Only one master is required and this need not be to exact dimensions specified. Gage is set by means of radio type knobs while observing dial. Approximate location of contact point is obtained manually by turning lead screw which raises or lowers head. Gaging head can be swung 180 degrees in either direction by rotating column.

Indicator dial has two scales, lower being graduated 3-0-3 and upper, 1-0-1. Depending upon magnification needed, smaller division of each scale is equal either to .0001 or .00001 inch. Any one of four magnifications may be selected by means of switch. Contact pressure can be adjusted to suit requirements from 1½ to 16 ounces. Thus soft materials can be gaged without marring or distortion.

Control circuit stabilizes instrument against most voltage variations. Pilot light protective devices are provided. Made by Federal Products Corp., 1144 Eddy St., Providence 1, R. I.

▲ Mention Item NED-713 when writing ▲

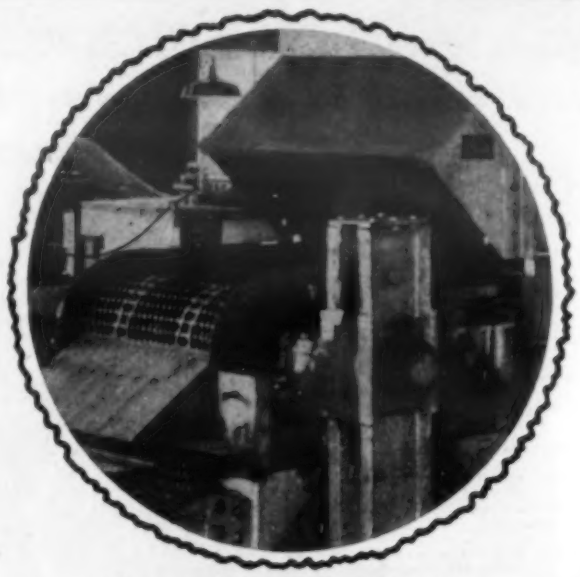
Thread bolts?

This patented dieholder—with large opening below die for instant clearance of turnings—is available for either the Nos. 2 or 3 BEAVER Drophead Ratchet Pipe Threaders. Eliminates torn threads due to chips packing in the die.

Write for Catalog 44

BEAVER PIPE TOOLS
145 HENRY AVENUE
WARREN, OHIO

▲ Mention Item NED-714 when writing ▲

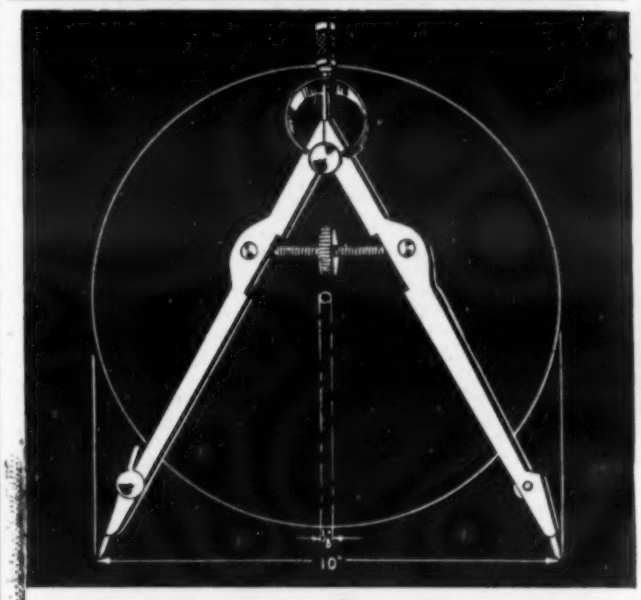


You Don't Know Nuttin

You don't know anything about Audubon Metalwave Belts, unless you are an essential war-industry user. Even we, in pre-war days, did not know that we could do so much with the belt designs and constructions, and that the belts could do so much for various industries in reliable service and long life. Demands of war industries resulted in advanced designs and constructions which are years ahead of normal progress. If you merely considered them in pre-war days, you can well forget all you may have remembered; then, get the story of our latest accomplishments and see how they can benefit your post-war re-conversion plans.

AUDUBON WIRE CLOTH CORPORATION
2803 CASTOR AVE., PHILADELPHIA, PA.

▲ Mention Item NED-715 when writing ▲



with One Vemco Compass

From ⅛" to 10", this large VEMCO Bow Pencil Compass will draw light or dense circles in pencil on paper, wood, or metal. Open truss design makes possible a reduction of 40% in the weight of this VEMCO over older types.

VEMCO instruments are available singly or in sets. See your dealer or write direct.

V & E MANUFACTURING CO.
PASADENA • CALIFORNIA

▲ Mention Item NED-716 when writing ▲

★★★★★★★★★★★★★★★★

STAR PERFORMER

UNBRAKO
Reg. U. S. Pat. Off.

SELF-LOCKING HOLLOW SET SCREW
with Knurled Cup Point

It does an outstanding job—locks in place and won't shake loose. Tighten it in the usual way and the knurls of its cup point dig in and hold tight. It absolutely will not shake loose, even under the most severe vibration. Yet it is easily removed when necessary and may be used again and again.

Pat'd & Pats. Pend.

Sizes from No. 4 to 1-1/2" diameter. Full range of lengths.

Send for the "Unbrako" Catalog of Socket Screw Products.

Knurling of Socket Screws originated with "Unbrako" years ago.

OVER 40 YEARS IN BUSINESS

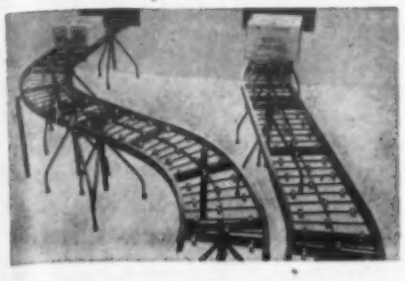
STANDARD PRESSED STEEL CO.
JENKINTOWN, PENNA. BOX 581

—BRANCHES—
BOSTON • DETROIT • INDIANAPOLIS • CHICAGO • ST. LOUIS • SAN FRANCISCO

★★★★★★★★★★★★★★★★

▲ Mention Item NED-717 when writing ▲

VERSATILITY...



YOU CAN MOVE *so* MUCH... WITH *so* LITTLE!

SPEEDWAYS, the new gravity, ball bearing roller case conveyor moves packages, cases, cartons with lightning speed! It saves manpower—because GRAVITY works for you without cost!

Lightweight—Speedways weigh only 7 pounds per foot—one man can easily carry a 10′ length! 10′ and 5′ straight sections easily attached—45° and 90° reversible curves . . . and 3 sizes of adjustable stands—portable or permanent installations. Models 15-sw-6 and 15-sw-8 and 15-sw-10 in stock! Other models available also.

1082 MAIN ST.
AMHERST 2100
BUFFALO 14, N. Y.

SPEEDWAYS CONVEYORS

Agents in principal cities.

▲ Mention Item NED-718 when writing ▲

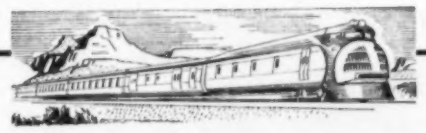
Typical of KAYDON precision is the spherical roller bearing, 4.3307" I. D. x 7.0866" O. D. x 2.2047" wide illustrated above. KAYDON Bronze or steel retainers; super-precision or standard tolerances.

KAYDON specializes in all types of ball and roller bearings, 4" bore to 120" outside diameter. Atmospheric control in heat treating is available at KAYDON. KAYDON offers added services in flame hardening, precision heat treating, metallurgical laboratories, microscopy and physical testing. Contact KAYDON for every need.

KAYDON *Standard or Special Bearings:*
Spherical Roller • Taper Roller
Ball Radial • Ball Thrust
Roller Radial • Roller Thrust

THE KAYDON ENGINEERING CORP.
MUSKEGON • MICHIGAN

▲ Mention Item NED-719 when writing ▲



SPEED UP

FILTERING of Oils, Greases, Chemicals, Plating Solutions by Using the SPARKLER *"Horizontal Plate"* METHOD

Sparkler Filters not only provide the fastest medium for filtering materials of heavy or light viscosity, and facilitate handling through their mobility, but are also the most flexible, efficient and economical ever devised for uniform, dependable filtration.

Designed to use any filter aid—and less of it—Sparkler Filters operate at unbelievably low cost at higher flow rates. Longer filtering cycles materially reduce the frequency of cleaning.

ENGINEERING SERVICE
FREE FILTRATION

Write for name of nearest Sparkler representative—no obligation.

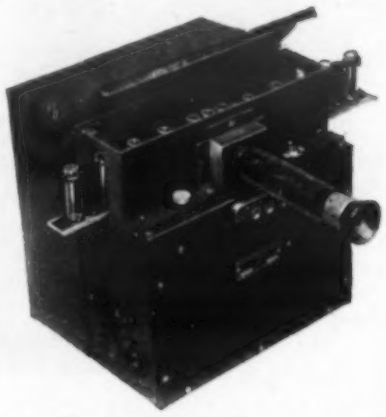
SPARKLER MFG. COMPANY
343 Lake St.
Mundelein, Ill.

SPARKLER HORIZONTAL PLATE FILTERS

▲ Mention Item NED-720 when writing ▲

FLUORESCENCE COMPARATOR

Measurement and comparison of fluorescence of solutions is accomplished accurately with this Optical Fluorescence Comparator. Its use permits quantitative analysis of fluorescent solutions by means of fluorescent standards. Such materials as vitamins, quinine, atabrine, drugs, oils, organic and inorganic compounds may be checked. Instrument has high sensitivity and is simple in operation. Construction is suitable for service under any power line and climatic conditions, including use in tropics.

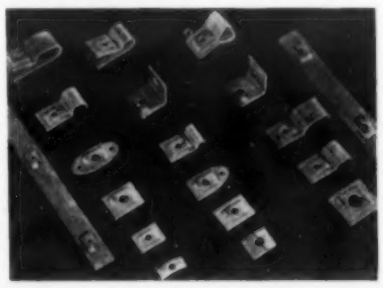


Comparing operation is performed without eye strain, even for extremely faint fluorescence. Minute quantities can be detected and measured reliably. Light of incandescent or mercury vapor source is collimated by lens, deflected by mirror and passed vertically through three flat-bottomed vials. Fluorescence excited in liquid is observed horizontally from front. Split-field optical system provides three fields of equal size, directly adjacent to each other and without dividing lines between them. Magnifying eyepiece is adjustable.

Unknown material is compared optically with fluorescent standards of known concentration. These standards are placed in vials and are inserted in order of increasing concentration into sliding rack with one space between each standard. Vial with unknown is then viewed between successive two standards until brightness is equal between one standard and unknown. Made by **Photovolt Corp.**, Dept. OFE, 95 Madison Ave., New York 16, N. Y.

▲ Mention Item NED-721 when writing ▲

SELF-LOCKING NUTS



Offering 360-degree contact with screw threads, Stalock spring steel, quick-fastening lock nut is claimed to afford positive gripping action while conserving tension locking power so that it can be reused. When screw or bolt is tightened, spring action of nut causes contact surfaces to be forced deeper into thread channels to give greater locking action. Resulting tension prevents loosening, even under extreme vibration.

Tests are claimed to show that fastener meets all demands of light assemblies with performance exceeding AAF specification No. 25533. Wide variety of fasteners is furnished in two types: for sheet metal screws, standard sizes Nos. 4, 6, 8, 10 and 14; for coarse machine screw threads Nos. 6, 8, 10, ¼ inch and 5/16 inch. Special sizes and shapes can be made to specifications.

Advantages are reduction in weight, ease of assembly and low cost. They are particularly suited for aircraft use, as well as for wide range of appliances and other assemblies. Made by **Adel Precision Products Corp.**, 10777 Van Owen, Burbank, Calif.

▲ Mention Item NED-722 when writing ▲

SCHRILLO CRAFTSMANSHIP

. . . at no added cost!

Simple ball bearing absorbs vertical thrust.

Alloy steel generated gears transmit the required r.p.m. quietly, efficiently.

Alloy steel shaft hardened and ground to assure long life under continual use and abuse.

Shaft bearings are self-lubricated.

The Schrillo Angle Drive has been introduced for efficient, dependable usage in relatively inaccessible places common to aircraft manufacture and maintenance. The assembly and component parts are typicl examples of Schrillo Craftsmanship featuring the finest of materials coupled with superior design and workmanship. Priced at only $16.00, without cutter, it will be maintained by the factory in first class working condition at a nominal charge. Immediate delivery out of stock. A complete stock of cutters is also available. Order by the Tool Number: 1290 B.

SCHRILLO
LOS ANGELES • CALIFORNIA

▲ Mention Item NED-723 when writing ▲

REMOVE SCALE, PAINT, RUST, Quickly . . . Easily . . . Use

AURAND

CLEANING TOOLS

For any hard metal or stone surface—iron — steel — brick — concrete —etc.

Electric or Pneumatic 2 sizes of each

It's easy to remove paint, scale, rust and other accumulation with AURAND Cleaning Tools. Powered, rotary chipping does a thorough cleaning job in less time. No special skill required. Even depth surface is assured by an adjustable shoe control. Cutter heads are renewable.

For Further Information Address Dept. 14

AURAND MFG. & EQUIP. CO.
2643 Colerain Avenue • CINCINNATI, OHIO

▲ Mention Item NED-724 when writing ▲

TODAY as never before, plating to accurate specification is a necessity and such accuracy can only be accomplished by absolute CONTROL of both time and plating current.

Udylite has been a pioneer in close tolerance plating—Udylite engineering and control equipment have earned a well deserved reputation for dependability and superiority as a result of their fine record of performance.

Udylite control installations range from a single, standard rheostat to the most complete automatic control panels found in the industry today. No job is too large or too small for careful Udylite consideration and execution.

Udylite has a complete line of standard control equipment for your immediate use. Special equipment will be engineered and built in our shops to meet your specific requirements.

Udylite's engineers are thoroughly experienced in all the phases of control. Their combined knowledge is yours for the asking in working out your individual control problems.

It is smart economy to do it *right* with UDYLITE.

THE UDYLITE CORPORATION
1651 EAST GRAND BOULEVARD • DETROIT 11, MICHIGAN
REPRESENTATIVES IN ALL PRINCIPAL CITIES

▲ Mention Item NED-725 when writing ▲

NO PACKING—The resilient diaphragm isolates working parts from the flow, and seats tight against weir for absolutely leakproof closure. No wiredrawing to worry about. Maintenance consists of occasional replacement of diaphragm—a matter of minutes and pennies. Enjoy the time, money and labor-saving benefits of one of the simplest, most revolutionary valves ever designed. Ask for CATALOG No. V-44.

For control of acids, alkalis, gases, semi-solids, volatile and viscous substances, slurries, water, air, etc. For pressures to 150 psi.

Maximum recommended temperatures, standard valves 180° F.; others to 220° F. Sizes to ½" to 14" both screwed and flange. Handwheel and lever operated types . . . air, motor or chain operated.

HILLS-McCANNA COMPANY
2455 W. Nelson St., Chicago 18, Ill.

HILLS-McCANNA Diaphragm Valves
SAUNDERS PATENT
Thousands of Installations—13 Years Experience

▲ Mention Item NED-726 when writing ▲

CONTROLS FOR POSTWAR PRODUCTS

With the rush to catch the earliest possible markets with postwar products, it is important that they be designed with units that can be procured without undue delay. Manufacturers of equipment requiring electric controls will find Ward Leonard Relays, Resistors and Rheostats readily available without "time-out" for redesigning. Let us send you bulletins describing controls of interest to you.

WARD LEONARD
RELAYS • RESISTORS • RHEOSTATS
Electric control (WL) devices since 1892.

WARD LEONARD ELECTRIC CO.
51 SOUTH ST., MOUNT VERNON, N.Y.

▲ Mention Item NED-727 when writing ▲

100 CASE HISTORIES
of typical applications in Industry of

"PORTABLE" WELDING	"STATIONARY" WELDING
1. Portable machines	1. Pedestal Spot welders
2. Push guns	2. Rocker arm welders
3. Scissors guns	3. "Temp-A-Trol" welders
4. "C" type guns	4. Projection welders
5. Pinch type guns	5. Multi-spot welders
6. Special guns	6. Seam welders
7. Portable Seam Welders	7. Special Uses of Welders

Write for your copy on your Company Letterhead. Ask for it by name. "RESISTANCE WELDING AT WORK" or by number WP-44

On all kinds of industrial products: automobiles, stoves, refrigerators, containers, aircraft, etc . . . All kinds of metals: aluminum, stainless, carbon steels, alloy steels . . . In heavy gages and light gages . . . On all kinds of shapes.

Plus a section on Welding & Assembly Fixtures

No metal fabricating plant should be without one of these idea-provoking 60-page books . . . the story of how resistance welding can be and is being used to simplify construction, cut costs, speed production and improve the value of finished products. Includes many new uses developed as a result of the war.

PROGRESSIVE WELDER CO.
SEAM PROJECTION & BUTT • Electric Welding Equipment • PORTABLE GUN & PEDESTAL
3050 E. OUTER DRIVE • DETROIT 12, U. S. A.

▲ Mention Item NED-728 when writing ▲

HAND OPERATED GENERATOR

Operated by one man, this battery charging generator delivers about 40 watts. Developed expressly for military use, postwar applications will include field use, small marine battery charging, operation of remote radio stations and charging batteries for portable electric equipment. Carter Magmotor has permanent magnet fields which contribute to efficiency of operation and generator provides 8-volt direct current at 5 amperes.

One man seated upon seat which folds up when not in use, turns two hand cranks which are readily demountable. Drive is effected through gear train which incorporates Bakelite gear for smooth operation. Hand generator is moistureproof, shafts are completely sealed and entire unit is enclosed. Output is to two terminals. Chain suspended between legs prevents collapse when equipment is set up. No meter is required since batteries cannot be overcharged by turning hand cranks. Made by **Carter Motor Co.**, 1600 Milwaukee Ave., Chicago, Ill.

▲ Mention Item NED-729 when writing ▲

BLOWER ANGLE DRIVE UNIT

Specifically designed for cabin heater drive in new attack bomber, this fractional horsepower electric motor angle blower drive unit is of continuous duty type. It is fan cooled and rated at ½ horsepower. Gear ratio is 1 to 1 and right angle gear box provides 7000 revolutions at drive shaft. Intended for use in 28-volt system, drive has overall efficiency of 70 per cent. It is engineered to fit restricted space within existing airframe structure. This self-contained drive has motor frame No. 6220. Made by **Electrical Engineering & Mfg. Corp.**, 4606 W. Jefferson Blvd., Los Angeles 16, Calif.

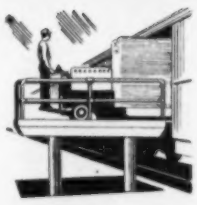
▲ Mention Item NED-730 when writing ▲

DO YOU KNOW?

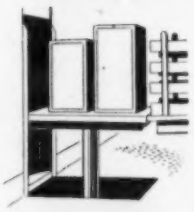
Construction of this rubber and fabric tent developed by Army Medical Corps is such that tiniest flicker of light is prevented from penetrating its interior. X-ray pictures of injuries suffered by military personnel are made in it in field so as to facilitate immediate surgery to remove shell fragments or other operations. Built by The B. F. Goodrich Co., Dept. E, 500 S. Main St., Akron, O.

▲ Mention Item NED-731 when writing ▲

KEEP TRAFFIC FLOW UP .....MANPOWER DOWN



Rotary Levelators keep loads on the move and speed up traffic. They conserve manpower, cut costs . . . and save plant space too! Full truck loads of heavy materials are elevated quickly from the plant floor. The Levelator car always rises smoothly as oil is pumped under pressure into a powerful jack by an electric pumping mechanism (or by available compressed air).



ONE-MAN OPERATION

One man handles heaviest loads easily at the push of a button. By conserving manpower Levelators permit you to meet tough loading schedules. Ordinary size Levelators are powered by single jacks; dual jacks, mechanically equalized, are furnished with large Levelators.

THIS FREE BOOK gives you all the facts. Write for Rotary Levelators Manual, a complete handbook on this modern lifting equipment. The fact-filled sections contain engineering notes, architectural data, and photographs of many types of installations. Send for your FREE copy today. Rotary Lift Co., 1051 Kansas, Memphis 2, Tennessee.

Rotary MEMPHIS LEVELATORS

▲ Mention Item NED-732 when writing ▲

WHEN TAPE SAVED LIVES

When Bauer & Black technicians helped reduce work stoppages from 240 per 24-hour day to 58, in a great shell-loading plant, by perfecting a special layer roll of tape for the machines that wrapped shells, lives of American boys were saved. But solving vital tape problems both in war and peacetime industry is their *daily* job—they're used to saving time, speeding production, increasing operational efficiency.

Would it not be wise for you to call on the experience, research, and laboratory facilities of Bauer & Black before buying any Industrial Tape? There's no obligation. You may gain much. Write Dept. 42 and say when our trained Sales Engineers may call.

BAUER & BLACK
Industrial Tape
PRESSURE SENSITIVE ADHESIVE

A product of
BAUER & BLACK
Division of The Kendall Company
2500 SOUTH DEARBORN STREET, CHICAGO 16, ILLINOIS

▲ Mention Item NED-733 when writing ▲

GRIND DRILLS ACCURATELY WITH THIS ATTACHMENT

Designed for Hand or Power Grinders

● It's easy to get correctly ground drills with this efficient attachment. Merely set the indexed dial to correspond with the size drill to be sharpened, set drill in holder and grind.

The DG-10 Drill Grinding Attachment can be installed on any grinder, either hand or power operated, and will handle any drill size from 5/32" up to 1" diameter.

Save both time and money by quickly restoring used drills to original cutting angles. Write for additional information and catalog of the complete Snap-on line.

SNAP-ON TOOLS CORPORATION
8042-B 28th Ave. Kenosha, Wisconsin

Snap-on Tools
THE CHOICE OF BETTER MECHANICS

▲ Mention Item NED-734 when writing ▲

THIS AMAZING TRUCK
Shipped on Approval!

SABIN One-Man TRUCK
FOR BARRELS AND DRUMS

The trucker does no lifting, carries no weight, needs no helpers when handling drum or barrel loads up to 800 pounds. He simply runs truck up to drum, slides adjustable hook over the top chime, pulls handle and truck is loaded automatically.

Exclusive Third-Wheel Feature assures dependable load support and balance and enables loaded truck to stand alone.

WRITE FOR FREE BULLETIN
The Sabin Machine Co.
6536 Carnegie Avenue
CLEVELAND, OHIO

$33.50
with semi-steel roller bearing wheels.
Send Trial Order.

▲ Mention Item NED-735 when writing ▲

These Economy Tools Solve the Problem of Handling a Maximum of Bores with a Minimum of Mandrels . . .

TYPE A STEP JAW DESIGN

Size No.	Range of Bores Taken	Length Overall
1A	1/2" to 1"	9"
2A	1" to 1 1/2"	11"
3A	1 1/2" to 2"	12 1/4"
4A	2" to 3"	20 1/2"
5A	3" to 4"	21"

NICHOLSON E-x-p-a-n-d-i-n-g MANDRELS

TYPE A MANDRELS are recommended for a large range of bores with few mandrels. Only five mandrels, each with one set of three jaws, hold work with all bores from 1/2" to 4". No. 1A has jaws with three steps, larger sizes have jaws with two steps. Can be used in hexagonal broached holes as well as round.

TYPE B—STRAIGHT JAW DESIGN

Size No.	Range of Bores Taken	Length Overall
1X	1/2" to 9/16"	5"
2X	9/16" to 21/32"	6"
3X	21/32" to 3/4"	6"
00	3/4" to 7/8"	8 1/4"
0	7/8" to 1"	8 1/4"
1	1" to 1 1/4"	9"
2	1 1/4" to 1 9/16"	11 3/4"
3	1 9/16" to 2"	13 3/4"
4	2" to 2 1/2"	17 1/4"

Other Sizes Taking Up to 7" Bores SOLD SINGLY OR IN SETS

Prompt Delivery

TYPE B MANDRELS have longer jaw gripping surface, and accommodate longer, heavier work. 14 sizes will accommodate all bores from 1/2" to 7". The smaller sizes require only one set of jaws, intermediate sizes two sets, and larger sizes three sets. Each set consists of four jaws. For square holes as well as round.

Bulletin 1043

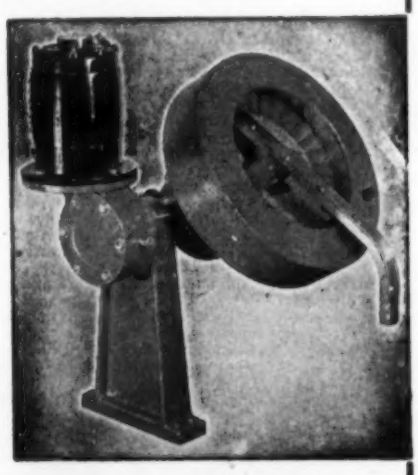
W. H. NICHOLSON & CO. 162 OREGON STREET WILKES-BARRE, PA.

▲ Mention Item NED-736 when writing ▲

HOPPER FEEDS

MOTORIZED HOPPER UNITS FOR FEEDING:

SCREWS
SCREW BLANKS
NUTS
RIVETS
PINS
NUT BLANKS
WASHERS
DISCS
and many
SPECIAL PARTS



Send Samples and Information will be given as to pickup. *Also Prices*

Units Are Adaptable To Presses, Thread Rolling Machines and Special Machines

DETROIT POWER SCREWDRIVER CO.
2819 W. Fort St. Detroit 16, Mich.

▲ Mention Item NED-737 when writing ▲

GENERAL
Cleated Corrugated Containers

It pays to advertise! This General Cleated Corrugated Container for a deluxe radio cabinet has ample room on its exterior for name, trademark or advertising message. But it provides greater-than-ever protection as well. The vertical cleats provide greater column strength; the corrugated board, lateral strength. As a result this attractive, modern package resists weaving, is rigid and stacks well. It's only one of many General-Engineered Containers. Write for full details.

GENERAL BOX COMPANY

General Offices: Corner of Dearborn and Illinois Streets, Chicago, Ill.; District Offices and Plants: Brooklyn, Cincinnati, Detroit, East St. Louis, Kansas City, Louisville, Milwaukee, New Orleans, Sheboygan, Winchendon . . . . Continental Box Company, Inc.: Houston, Dallas

▲ Mention Item NED-738 when writing ▲

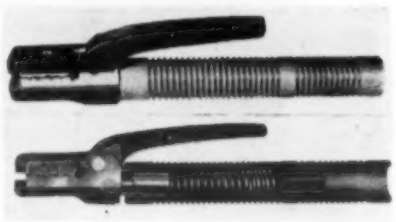
ILLUMINATED MAGNIFIER

Visual inspection operations are facilitated through use of this model C Magni-Ray illuminated magnifying unit which is of improved design. Aluminum alloy casting encases unit and provides for ease in transporting to work or for fastening to machine tool to observe operations. Five-inch diameter lens of optical glass gives undistorted view of object under inspection. Housing is fastened to 16-inch upright rod extending from base by means of universal clamping device which permits swiveling in any direction. Triangular cast iron base supports rod and unit.

Light is furnished by two 25-watt tubular lamps, silvered so that light is reflected directly on work. Base is covered with deep green background to prevent eye strain. Unit is wired for use on either 110-volt alternating or direct current. It may be used for inspection, checking, first aid, drafting and assembling operations. Made by **George Scherr Co.**, 200 Lafayette St., New York 12, N. Y.

▲ Mention Item NED-739 when writing ▲

WELDING ELECTRODE HOLDER



Featuring heat resisting Ever-Last plastic jaw cover, this Mor-Weld electrode holder is claimed to give up to thirty times more service than conventional types. Design permits welding rod to be consumed to small stub without bending. It holds all rod sizes. Quick-change, lever-action jaws can be replaced in less than 1 minute without tools. All parts are interchangeable. Plastic handle is air cooled and cannot come off unintentionally. Made by **Pacific Engineering Corp.**, 3123 San Fernando Rd., Los Angeles 41, Calif.

▲ Mention Item NED-740 when writing ▲

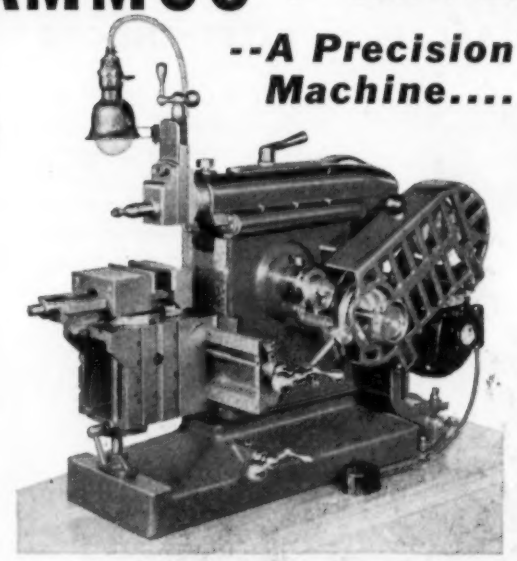
ULTRA-VIOLET ABSORBENT

Synthetic chemical which absorbs more than 99.9 per cent of ultra-violet radiations of the sun has been used successfully in manufacture of plastic goggle lenses. Chemically treated plastic transmits as much light as windowpane, yet blocks all harmful ultra-violet rays. Although many other ultra-violet absorbing compounds are known, this plastic is distinguished by combination of stability, high transmission to visible light, high ultra-violet absorption and nonfluorescence when ultra-violet strikes it. Chemical is classified as azine and it is being used as goggle lenses and as filters in visual instruments such as range finders and gunsights. Made by **Polaroid Corp.**, Cambridge 39, Mass.

▲ Mention Item NED-741 when writing ▲

AMMCO 7" SHAPER

--A Precision Machine....



On jobs requiring a stroke of 7" or less, the AMMCO 7" SHAPER will enable you to save a lot of time and expense on a set-up such as would be required on larger shapers . . . You also have an opportunity to effect considerable savings in capital investment . . . savings in electrical power consumption . . . and savings in floor space . . . Furthermore, in addition to getting away from the larger cost of operating a big shaper on small work, the AMMCO will leave big shapers open for big jobs . . Users tell us "it's the finest made" . . . Available for stationary installation, or as a portable unit.

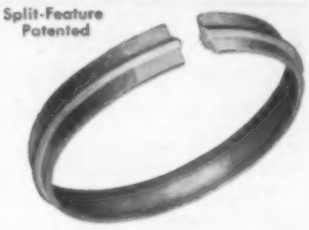
Write today for specifications and prices

AUTOMOTIVE MAINTENANCE MACHINERY CO.
2110 Commonwealth Avenue North Chicago, Ill.

▲ Mention Item NED-742 when writing ▲

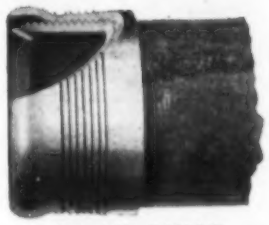
WEDGE makes PROTECTORS of All Types

Split-Feature Patented



Many standard size Closing Plugs, Pipe Protectors, Plain Ends and Thread Protectors are available. We specialize in protectors and will make up special designs to meet your particular problems. Write regarding any difficult job of protecting finished parts.

You can use lighter walled pipe by welding with WEDGE Split CHILL RINGS



Patent No. 2,156,169

Weld your pipe joints with WEDGE Chill Rings with the patented SPLIT Feature and use LIGHTER walled pipe. You can use thinner pipe because WEDGE Chill Rings REINFORCES the joints. This saves considerable money, write.

WEDGE PROTECTORS, INC.
9528 RICHMOND AVE. CLEVELAND 5, OHIO

Use WEDGE Chill Rings-Thread Protectors!

▲ Mention Item NED-743 when writing ▲

The world-wide reputation Briggs & Stratton has earned as manufacturers of *"the world's finest gasoline engines"* was born of constant research in our plant and afield — constantly adding improvements and refinements — developing advancements in design and engineering — and ever-increasing precision manufacture.

Air-Cooled Power BRIGGS & STRATTON 4 CYCLE GASOLINE ENGINES

Always striving for and building for the best in *air-cooled power* — quick starting, dependable and economical — insuring trouble-free performance — has resulted in a demand for *more than two million* Briggs & Stratton engines — during 25 years of *continuous production*. BRIGGS & STRATTON CORPORATION, Milwaukee 1, Wisconsin, U. S. A.

▲ Mention Item NED-744 when writing ▲

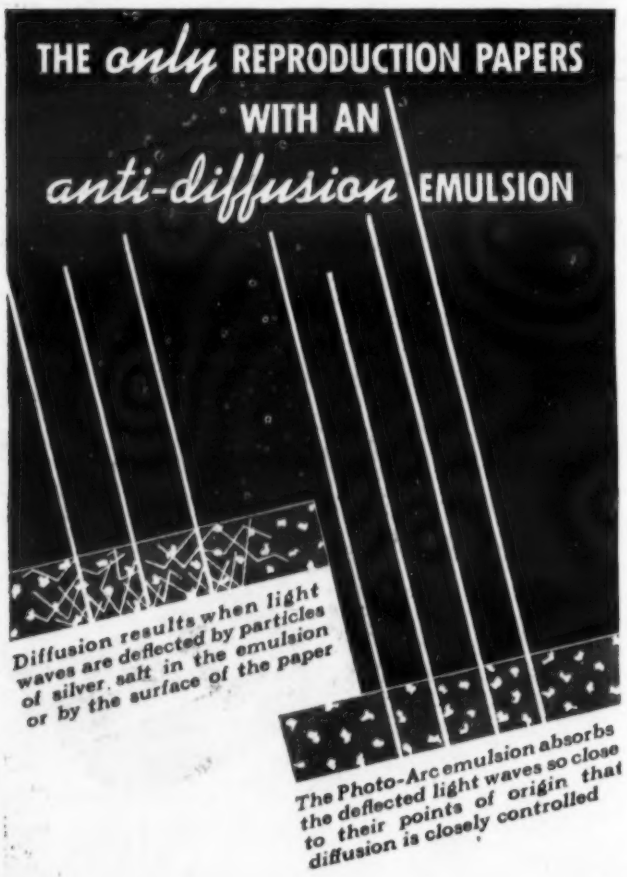
Roll call of Island Equipment Corp. Jobbers and Representatives

See our nearest distributor for Conveying Equipment

CALIFORNIA—San Francisco
King Sales & Engineering Co.
COLORADO—Denver
Halsell Brokerage Co.
William G. Sumners
CONNECTICUT
Waterbury—Carl Nye
West Haven—Harold Smith
FLORIDA
Miami—Orlando—Jacksonville—
General Mills
Tampa—General Mills
—Lenfestey Supply Co.
ILLINOIS
Chicago—Brady Conveyor Corp.
—E. G. James Co.
—Lindsley & Voss
—Ward Equipment Sales Co.
INDIANA—Indianapolis
Kaygood Equipment Co.
Universal Dairy Equip. Co.
LOUISIANA—New Orleans
Engineering & Mfg. Co.
MARYLAND
Port Deposit—Tom McLay
MASSACHUSETTS
Boston—E. M. Noel Co.
—Lewis E. Tracy Co.
—W. I. Young & Co.
Brookline—Alvin J. Sadow
Cambridge—Bellamy-Robie Co.
Framingham—R. E. Rice
Quincy—A. L. Van Riper
Stoneham—Victor D. Ferguson
MICHIGAN—Detroit
Lusk Ind'l Sales Co.
NEBRASKA
Omaha—S. Riekes & Sons
NEW JERSEY
Hackensack—Herbert B. Cumming
Metuchen—Lawler & Co.
NEW YORK
New York—Robert M. Gantert
—Charles W. Glaser
—N. H. Heyman
—Majestic Trading Co.
—M. C. Wilkenfeld Co.
Rochester—Boutell Mfg. Co.
OHIO
Cincinnati—E. J. Stoecklin
Cleveland—Nook & O'Neill Inc.
PENNSYLVANIA—Philadelphia
A-1 Ind'l Equip. Collar & MacCallum
RHODE ISLAND
Auburn—Wheeler Handling Equip. Co.
Providence—Concordade Co.
TEXAS
Dallas—Dillon Scale Co.
Houston—Dillon Scale Co.
—A. J. Mengden Co.
UTAH
Ogden—Leavitt Co.
Salt Lake City—Monroe & Crisell
VIRGINIA
Herndon—General Mills
Norfolk—I. W. Hardy & Co.
Richmond—General Mills
WEST VIRGINIA
Bluefield—General Mills

▲ Mention Item NED-746 when writing ▲

THE *only* REPRODUCTION PAPERS WITH AN *anti-diffusion* EMULSION



Light-diffusion closes up lines in a negative, spreads them in a positive print. It causes poor definition, lost details, fuzziness. In the past, diffusion could be avoided only by achieving exactly the right exposure.

The new Photo-Arc emulsion reduces diffusion — reduces it so decidedly that full, non-critical exposures can be made. Lines are clean and sharp. Greater density, greater contrast, greater legibility are assured.

PEERLESS PHOTO-ARC REPRODUCTION PAPERS

The *only* silver emulsion reproduction papers which can be handled and processed without dimming lights

The *only* such papers which can be run in *any* kind of continuous blueprint machine

INDUSTRIAL PEERLESS PHOTO PRODUCTS NEW YORK N.Y. PHOTO PROCESSES

For full information write for Bulletin 2g

Manufactured only by
PEERLESS PHOTO PRODUCTS, INC.
50 Broadway, New York 4, N. Y.

▲ Mention Item NED-747 when writing ▲

GAS HEATING TORCH

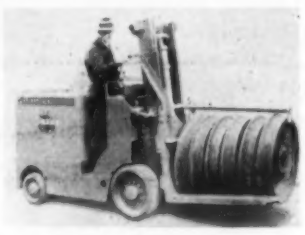
Designed for concentrated localized heating such as is required for bending, straightening and shrinking of steel plate, this style 9802 medium-weight heating torch is also adaptable for silver brazing of heavy copper plate in manufacture of heavy copper pipe. Though light in weight, torch has equal gas capacity to previous models of heating torches. Five new multi-flame acetylene heating tips as well as two multi-flame propane heating tips are available. These seven tips will meet practically all heavy duty heating requirements.

Three mixers are available for each torch for positive pressure acetylene, for low pressure acetylene and for propane. Available extensions include 12-inch straight unit and 18, 24 and 42-inch angular extensions. Distributed by **Air Reduction Sales Co.**, 60 E. Forty-second St., New York 17, N. Y.

▲ Mention Item NED-748 when writing ▲

RAILROAD WHEEL HANDLING

Moving of railroad car wheels is accomplished mechanically and safely through use of this attachment on standard Baker industrial power fork trucks. Attachment is easily mounted or



removed from truck. Wheels of practically any diameter can be handled with equal facility without services of skilled wheel rollers and without danger. Unit consists of hinged hoe-like clamp which engages top of farthest wheel. Clamp arm is raised to clear wheels by lever, conveniently located for operator and which may be latched in raised position. Arm and lever assembly mounts on bracket which slips on top of fork backs and is held in position by its own weight.

To pick up load of wheels, clamp is raised by pulling and latching lever. If wheels do not tilt approximately alike, they may be straightened by forcing one against another with bottom edge of attachment bracket which is turned over in a lip. Handle is unlatched and arm lowered. Forks may then be raised to pick up wheels in same tilted position in which they were stored.

Truck with 6000-pound capacity handles from one to six wheels on 48-inch forks. Arm will accommodate 36-inch passenger car wheels or smaller ones, as well as standard 33-inch freight car wheels. One or two wheels can be handled as easily as full load, pin stop preventing their tipping. Forks may be used to handle capacity load of axles, or it will handle two axles with wheels attached. Made by **The Baker-Raulang Co.**, Baker Industrial Truck Div., 2179 W. Twenty-fifth St., Cleveland 13, O.

▲ Mention Item NED-749 when writing ▲

Allison COLLET CHUCKS

Model #1 for 1½" 8-thread spindle lathes—with ⅞" collet capacity is unsurpassed as a combination chuck for either first or second operation work.

WRITE FOR THE NEW ALLISON CATALOGUE—SEE YOUR LOCAL DISTRIBUTOR.

Allison TOOL AND ENGINEERING CO.
4031 Whittier Boulevard, Los Angeles 23, California

▲ Mention Item NED-750 when writing ▲

Now Also Available in NEW LIGHT DUTY STYLE

All-Neoprene Latex INDUSTRIAL GLOVES

Impermeable to practically All Acids and Caustics

Highly Resistant to Oils and Greases

5 POPULAR STYLES

★ **No. 5760-5,** 18" LONG
EXTRA LONG GAUNTLET
GAUGE .030 TO .040
SIZES 10, 11

★ **No. 5737-2,** 14" LONG
LONG GAUNTLET
GAUGE .030 TO .040
SIZES 9-10-11-11½-12

★ **No. 5705-5,** 11" LONG
SHORT GAUNTLET
GAUGE .020 TO .025
SIZES 9-10-11

★ **No. 5703-5,** 10½" LONG
STANDARD DUTY
GAUGE .015
SIZES 7-8-9-10-11

★ **No. 5702-5,** 10½" LONG
LIGHT DUTY
GAUGE .010 TO .012
SIZES 7-8-9-10-11

REQUEST SAMPLES AND PRICES

SEIBERLING LATEX PRODUCTS CO.
AKRON, OHIO
200-5th Ave. Bldg., New York Merchandise Mart, Chicago

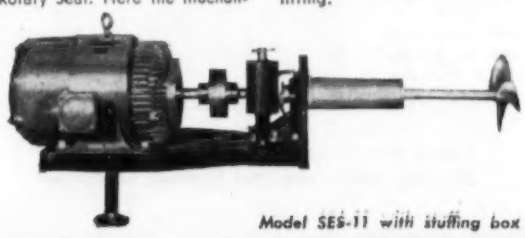
▲ Mention Item NED-751 when writing ▲

NEW DEVELOPMENT ELIMINATES REPACKING OF EASTERN SIDE ENTERING MIXERS

Leading in improved design for side entering models, Eastern has developed a mechanical rotary seal to replace the conventional stuffing box. It is applicable for most liquids, including hydrocarbons, aqueous solutions, and is particularly desirable for use with oil-sensitive substances. The lapped face of the hardened stainless steel sealing surface rotates against a stationary carbon sealing ring. The ring is held in position by a metal spring, and is sealed against the body of the mounting flange by a synthetic rubber or plastic packing. Materials used in this seal are selected to meet individual conditions. Seal wear, power loss, and friction heat are negligible. The rotary seal can be used up to 500 P. S. I. It will maintain an absolutely dry seal.

An additional exclusive Eastern development is the Twin Rotary Seal. Here the mechanical seals at each end of the bearing chamber hold the bearing lubricant under a pressure greater than that in the tank. Pressure is maintained by an air chamber, fitted with a pressure gauge. An oil fitting provides for routine injection of lubricant to the desired pressure. The gauge instantly indicates any seal damage or other functional failure.

Eastern can of course still furnish the pressure stuffing box which has been standard. Packing is placed on both sides of the shaft bearing, and bearing lubricant is fed under pressure from the oil cylinder. The weighted piston automatically creates a stuffing box pressure greater than the static pressure within the tank, so that any seepage is outward from the bearing. A single gland provides packing adjustment, and lubrication is accomplished through a single fitting.



Model SES-11 with stuffing box

EASTERN ENGINEERING COMPANY
43 FOX STREET • NEW HAVEN 6, CONNECTICUT

▲ Mention Item NED-752 when writing ▲

P&H WELDING POSITIONERS

WELD FASTER, EASIER, AT LOWER COST!

Model WP-2—2500 lbs. Capacity

There are more big time-and-money-saving advantages in this new P&H WP-2 Welding Positioner than you would believe possible—at such surprisingly low cost.

The WP-2 is the most versatile positioner in its class—easiest to operate. Of all-welded steel construction with large table area and hydraulic power tilting—it is available with manual, handwheel or power turning. Has positive table locking device—telescopic elevation.

Write for Free Bulletin

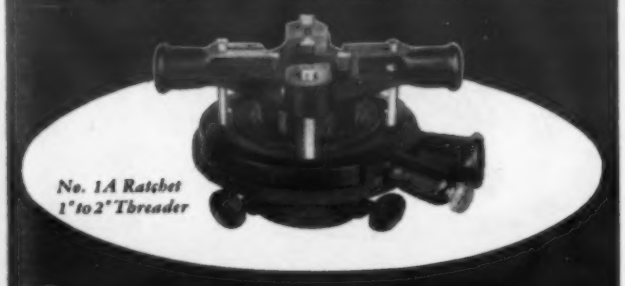
. . . of facts and pictures giving complete story! Start now to save time, costs by positioning your work. It shows you how! Ask for Bulletin P2-1.

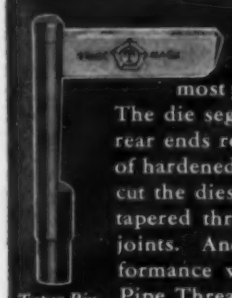
General Offices: 4537 West National Ave., Milwaukee 14, Wis.

HARNISCHFEGER CORPORATION
P&H ARC WELDERS • EXCAVATORS • ELECTRIC CRANES • MOTORS • HOISTS • WELDING ELECTRODES

▲ Mention Item NED-753 when writing ▲

TOLEDO *Pioneered* THIS EASY THREADING WAY!





The TOLEDO receding die principle produces the smoothest, most perfect threads with the least effort! The die segments lie loose in their slots, the rear ends resting against the tapering surface of hardened steel taper pins. As the thread is cut the dies recede, producing a smooth, full tapered thread that assures tight, leak-proof joints. Another reason for unbeatable performance with Toledo Tools! The Toledo Pipe Threading Machine Co., Toledo, Ohio. New York Office, No. 2 Rector St. Bldg.

TOLEDO
PRECISION PIPE TOOLS

▲ Mention Item NED-754 when writing ▲

STAMPED CLEVIS RING

Produced by simple stamping operation, this clevis ring is made to exact dimensions from alloy steel and is formed carefully so as to retain full strength qualities of steel. Each unit is cadmium plated and it conforms to specification ANQQ-P-421. Tests are claimed to have shown that strength factor of this clevis ring is in excess of cable with which it is used. It fits any standard cable terminal. Made by **Poulsen & Nardon, Inc.**, Dept. NED, Terminal Box No. 2398, Los Angeles 54, Calif.

▲ Mention Item NED-756 when writing ▲

PISTON RING INSPECTOR

Trueness of periphery and width of gap of specific size of piston ring are checked automatically with this electronic piston ring inspector. Ring to be inspected is inserted inside master ring of correct dimensional quality which is placed on instrument table and rotated by power-driven roller. Gaging functions are performed by scanning beams of light directed onto photo-electric cells which energize electronic circuits to illuminate three signal lights.

As ring revolves, one beam of light is projected on periphery. Clearance between it and master ring will result from any out-of-round condition of piston ring, permitting part of light to fall on photo-electric cell. This cell is set to actuate red rejection signal light if excessive amount of light indicates that ring is out-of-round beyond acceptable point. Should periphery be within tolerance limits, green light will flash at completion of one revolution, provided that width of gap is also within tolerance. Yellow signal light will show if gap is undersize. Beam of light is interrupted by mechanical shutter arrangement at time gap is passing this point.

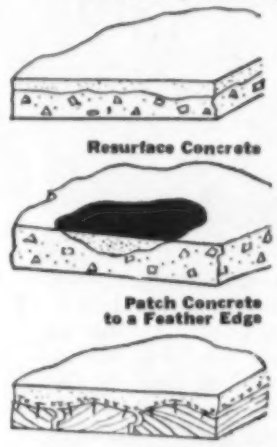
Another beam of light scans width of gap, and photo-electric cell is set to actuate yellow signal light in event of undersize gap. Third beam of light energizes third photo-electric cell to illuminate red rejection signal should width of gap be oversize.

Master piston rings of known dimensional quality are used to adjust instrument for desired tolerances. Device can be adapted to various nominal sizes, gaps of varying width, and also for variations of allowable out-of-roundness. Trueness of periphery can be determined within tolerance of .0001 inch. Inspection cycle per piece is less than 5 seconds and production rate is determined by speed with which rings are presented to gage by operator. Made by **The Sheffield Corp.**, 1530 E. Third St., Dayton 1, O.

▲ Mention Item NED-757 when writing ▲

Use "PERMAFLEX" Resurface and Patch INDUSTRIAL FLOORS

Bonds Perfectly — Never Comes Loose
3000 lbs. pressure per sq. in., will not rut



HEAVY DUTY · DUSTPROOF
SLIPPROOF · WATERPROOF
RESTFUL—QUIET

Install right over your old Floors, Walks and Drives.

No need to move machinery, finish right up to it. No Chipping. No Dust. No Delay. Install Friday night and Saturday, ready for use on Monday.

Never a failure in over 1,000 installations.

Our Contract Department can do the installation work for you at any rate to 30,000 sq. ft. per day.

AMAZING! UNBELIEVABLE!
Until you try "PERMAFLEX"
Users include U. S. Steel, Bethlehem, Republic, General Motors, A. O. Smith, Western Electric and Leading Railroads.

Lowest cost and most durable industrial flooring ever invented.

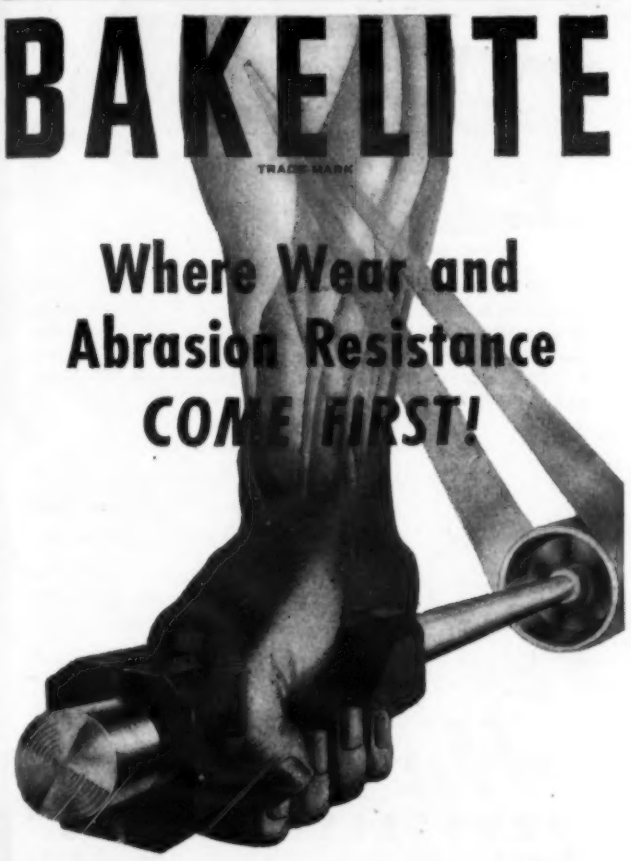
Write for 100 sq. ft. trial offer.

INSTALL COMPLETE 12½c per square foot

PERMAFLEX PRODUCTS COMPANY
1838 N. Front St., Philadelphia 22, Pa.

▲ Mention Item NED-759 when writing ▲

BAKELITE



Where Wear and Abrasion Resistance COME FIRST!

To extend the knowledge of plastics, Bakelite Corporation has published the third of a series of booklets —"Hardness—Wear and Abrasion Resistance". Case histories are given of products with high resistance to wear and abrasion. Industrial bearings of BAKELITE low-friction (graphited) phenolic plastic meet the supreme test of wear and abrasion resistance in heavy-duty steel mill service. One such mill has rolled 35 times more tonnage on bearings of BAKELITE plastics than on any others. In another mill these bearings have run for a year, while former bearings were replaced monthly.

The various types of BAKELITE and VINYLITE plastics with outstanding *wear and abrasion resistance* are described. The booklet explains why hardness must be disassociated from wear and abrasion resistance—that these properties do not imply equivalent or related physical values in plastics.

Write for this new Booklet N-16. In addition, our Development Laboratories are ready to help you apply plastics to essential applications.

BAKELITE CORPORATION
Unit of Union Carbide and Carbon Corporation
30 EAST 42ND STREET, NEW YORK 17, N. Y.

Molding Plastics

▲ Mention Item NED-755 when writing ▲

RAYTHEON VOLTAGE STABILIZERS

CONTROL VARYING LINE VOLTAGES
TO 115 VOLTS ± ½%

Ordinary A.C. line voltages as taken from supply mains often vary as much as from 95 to 130 volts. This impairs the precision operation of electrical equipment.

A Raytheon Voltage Stabilizer, built into new products or incorporated into equipment already in use, overcomes the disadvantage of fluctuating voltages by providing an accurately controlled source of power to ±½%.

Here's what a Raytheon Stabilizer does — stabilizes varying input voltage from 95 to 130 volts to 115 volts ±½% within 2 cycles.

Raytheon Voltage Stabilizers are entirely automatic. They require no adjustments or repeated maintenance. No moving parts assure long life. Write for bulletin DL 48-537.

RAYTHEON Manufacturing Company
190 Willow Street, Waltham, Mass.

▲ Mention Item NED-758 when writing ▲

THE *New*

Tinnerman HOSE CLAMP

This new one piece hose clamp can be installed and removed easier and faster because of its simple but sturdy ratchet-type locking mechanism. It weighs less, has a lower profile, exerts uniform pressure and may be used over and over again. Approved by Army Air Forces and Navy Bureau of Aeronautics. Sizes from ½" O.D. up. *Write for information.*

TINNERMAN PRODUCTS, INC.
2044 Fulton Road · Cleveland 13, Ohio

▲ Mention Item NED-760 when writing ▲

In this Bulletin

Details of a modern brazing development

that helps make brazing a simple, fast, low-cost mass-production operation.

Write for your copy now. Ask for Brazing News No. 29.

HANDY & HARMAN 82 Fulton St., New York 7, N. Y.

▲ Mention Item NED-761 when writing ▲

Hanna *Squeeze* RIVETERS

no effort to set 3/8" rivets COLD!

The portable Hanna Squeeze Riveter shown here is compact and easy to manipulate—sets rivets tight in any position. One of over 700 styles and sizes built by Hanna, manufacturers for 40 years of riveters designed to fit the job. Every rivet driven with a Hanna riveter is "right"—uniform in appearance. Write for catalog 232.

HANNA ENGINEERING WORKS
1765 ELSTON AVENUE CHICAGO 22, ILLINOIS
Air & Hydraulic RIVETERS CYLINDERS Air HOISTS

▲ Mention Item NED-762 when writing ▲

TAP LIFE Increased from 7 to 84 pieces *per Sharpening*

by COLD TREATING in a *Deepfreeze* *Industrial Chilling Machine!*

The value of applying Deepfreeze cold treating to increase cutting life of small tools is exemplified by the experience of this manufacturer. In tapping tank drive gear parts it was found that after machining a relatively few pieces, the crest of the 1/2" pipe tap burnished or the tap chipped on face of thread. This made frequent sharpening necessary, proved extremely costly and slowed production considerably.

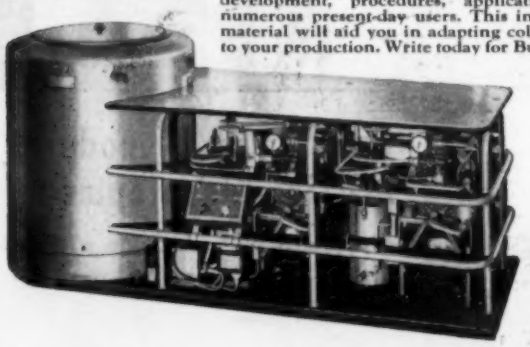
To remedy this and to reduce interruptions in the production of this operation for frequent tool changes, taps were subjected to the sub-zero treatment in a Deepfreeze −120° F. Industrial Chilling Machine.

Photomicrographs taken both before and after treatment showed that the cold-treated tap had a much finer Martensitic structure with little Austenite. Rockwell "C" Scale hardness of the metal was increased from 64 to 65 1/2. Actual tests revealed that over 84 pieces could be tapped per sharpening with the cold-treated taps against 7 pieces average for untreated taps . . . for an *increase in tool life of 1200%.*

In addition, the quality of the work with the cold-treated taps more closely adhered to air corps specifications for thread-smoothness and accuracy. Machine "down time" was also perceptibly decreased.

FREE . . . Complete Cold Treating Data . . .

DEEPFREEZE presents a new 40-page history of cold treating that includes development, procedures, applications and numerous present-day users. This informative material will aid you in adapting cold treating to your production. Write today for Bulletin I-4.



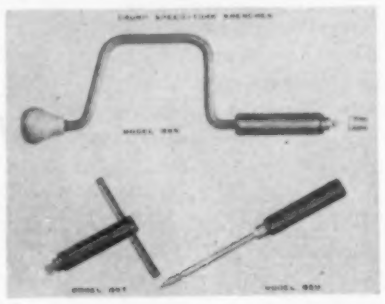
Only Motor Products can make a "Deepfreeze"

Trade-mark DEEPFREEZE Registered United States Patent Office

Deepfreeze 2316 DAVIS STREET, NORTH CHICAGO, ILLINOIS
DIVISION OF MOTOR PRODUCTS CORPORATION DETROIT, MICHIGAN

▲ Mention Item NED-763 when writing ▲

TORQUE SPEED WRENCH



Tightening of left and right hand nuts, bolts, screws and other threaded fasteners to predetermined torque is accomplished readily with this Speed-Tork wrench. Torque is readily adjustable from 1 to 60 inch pounds in increments of 1 inch pound. Construction features sealed lubrication, accurate operation and construction which prevents operator from exceeding predetermined torque check point.

Line includes model BWS with offset speed handle which assures maximum production. Model BWT has sliding T-handle. Both of these tools have standard 3/8-inch square drive. Model BSD is for driving standard and Phillips head screws. Units for loads greater than 60 inch pounds can be supplied to specification. Made by **Crump Mfg. Co.**, 1501 E. Ninety-second St., Los Angeles 2, Calif.

▲ Mention Item NED-764 when writing ▲

MASKING DIE HOLDER

All types of ordnance and automotive parts which are too large to be handled easily are readily marked through use of this masking die holder. This compact, self-contained unit holds all required marking dies in exact position for marking. Face of each marking die is protected in holder so that it may be placed in marking position quickly without danger of scratching work. Die is balanced with marking arranged so that impression can be made with single hammer blow on each side.

Bounce or chatter marks are practically eliminated because each die is supported. Individual sections of marking may be changed as required. Masking die holders can be made to suit practically any shape or diameter of part. Holder can be altered to fit special parts, and guide pins and bars may be placed as required. Made by **The Acromark Co.**, 7-11 Morrell St., Elizabeth 4, N. J.

▲ Mention Item NED-765 when writing ▲

DO YOU KNOW?

It has been found that paint, used to "tone" workshops and factories through scientific application of various wave lengths of colors, can improve worker morale and boost production. Worker fatigue is lessened, absenteeism is reduced, accident rates are lowered and there are less rejects in plants which have adopted Color Dynamics system of finishing machines, walls, ceilings and floors with tested color combinations. Developed by Pittsburgh Plate Glass Co., Grant Bldg., Pittsburgh, Pa.

▲ Mention Item NED-766 when writing ▲

AIR IS FREE! Do you use it in YOUR PLANT?

MOTOAIR VACUUM OR PRESSURE PUMP

Simply plug it in, and put it to work. Available in many sizes... Compact; motor and pump in ONE integral unit. No GEARS, NO BELTS, NO DRIVES or GUARDS...

- REMOVING DANGEROUS DUST
- LIFTING & CONVEYING SHEET-METAL PARTS FOR DIE-STAMPING or ASSEMBLY
- OPENING COLLAPSED CARTONS for INSERTING CONTENTS
- HOLDING FABRICS OR PAPER FOR ACCURATE BONDING, SLITTING or WINDING
- POWER for CHUCKS or VISES
- TANK EVACUATION
- CLEANER or BLOWER SYSTEMS

NEW JERSEY MACHINE CORPORATION
13th St. & Willow Ave. • HOBOKEN, N. J.

▲ Mention Item NED-767 when writing ▲

Built to withstand shock or vibration

DURO TEST 2,000 HOUR EXTRA DUTY

These rugged lamps reduce burnouts on extension cord service and installations subject to mechanical shock. The filament is firmly braced and sawtooth-mounted on shock absorbing spring steel arbor. Fully backed by Duro Test one year free replacement guarantee.

Complete line of industrial lamps sold in your area by our trained service representatives who help you solve your lighting problems.

50*, 75, 100, 150, 200, 300 WATT SIZES

*Glass Arbor

DURO TEST CORP., NORTH BERGEN, N. J.
INCANDESCENT • FLUORESCENT • ELECTRONIC
SEND FOR CATALOG 44D

▲ Mention Item NED-768 when writing ▲

DRYING TIME CUT 66 2/3%! Case Hardening Eliminated!

"Your fan installation reduced drying time from 24 hours to 8, thus increasing production of the entire plant, since drying time was the limiting factor. At the same time quality was improved by more uniform drying, case hardening was eliminated and current consumption was cut materially." (Name on request.)

The Hartzell blade, designed by Hartzell airplane propeller engineers, gives you maximum air delivery; the patented Hartzell Air-Seal Ring stops loss of air at blade tips. Hartzell fans and blowers are engineered for every industrial use — resultful, economical, long-lived. Send for free catalog.

Hartzell PROPELLER FAN CO.
PIQUA DIV. OF CASTLE HILLS CORP. OHIO
SALES-ENGINEERING OFFICES IN PRINCIPAL CITIES

▲ Mention Item NED-769 when writing ▲

This Bulletin TELLS HOW-

TO OBTAIN *Required* GAS PRESSURES

If you are interested in a gas pump that will keep pressures right where you want them — and still be economical on power and maintenance costs—you should have a copy of Bulletin 31-B-15. A copy is waiting for your request.

ROOTS - CONNERSVILLE BLOWER CORPORATION
One of the Dresser Industries
502 Western Avenue, Connersville, Ind.

Roots CONNERSVILLE SINCE 1854

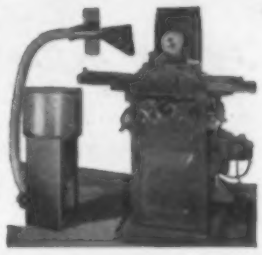
GAS PUMPS

▲ Mention Item NED-770 when writing ▲

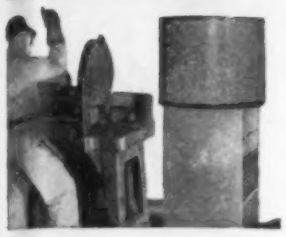
STOP DUST AT THE SOURCE

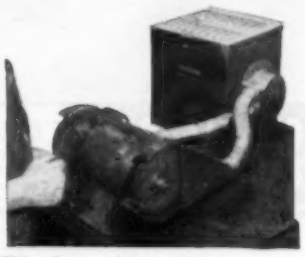
DUSTKOPS

DUSTKOPS are entirely self-contained, portable, low cost and quickly installed. DUSTKOPS get the dust!



Model 950 is a quick means of collecting dust from most surface grinders . . . Model 1250 DUSTKOP traps dust and fumes from this cut-off . . . Model 950 also is ideal for the tool grinder that is located in a remote corner of the shop . . . Model 600, requiring only 1 sq. ft. space is for the bench tool grinder.





Send Now for Catalog

AGET-DETROIT CO.

603 First National Bldg.
Ann Arbor • Michigan
Phone: Ann Arbor 2-5585

▲ Mention Item NED-772 when writing ▲

MASTER GAGE BLOCKS

Making possible wide range of combinations and also providing many duplicate combinations of same size, this DoALL master series No. 118 gage set is capable of producing any combination of sizes required for precision measurement. It consists of ten thin blocks from .010 to .090 inch including one .01005 inch; nine blocks from .021 to .029 inch in increments of .001 inch; nine blocks from .0201 to .0209 inch in increments of .0001 inch; nine blocks from .1001 to .1009 inch in increments of .0001 inch; fifty-three blocks from .101 to .190 in increments of .001 to .149 inch and increments of .010 inch from .160 to .190 inch; nineteen blocks from .100 to .950 inch in increments of .050 inch and including one block of .10005 inch; three fraction blocks of 1/32, 3/64 and 1/16 inch; four blocks of 1.000, 2.000, 3.000 and 4.000 inches, and two .050-inch tungsten carbide wear blocks.

Blocks meet or exceed requirements for gage blocks as established by U. S. Bureau of Standards. Each block is stabilized by six stages of annealing and freezing to −120 degrees Fahr. Resultant stabilized gage will not change more than a few millionths of inch over period of years. Surface finish of A grade blocks is within .5 micro inches root mean square.

This 118-piece set is available in accuracies of .000002 inch for laboratory use, .000004 inch for general inspection and .000008 inch for general work. They have Rockwell hardness of C-65 and are produced from alloy steel. There is minimum of corner radius which is uniform on all sizes. Gaging surface is flat to entire edges. Made by **Continental Machines, Inc.**, 1314 Washington Ave. S., Minneapolis 4, Minn.

▲ Mention Item NED-775 when writing ▲

STAINLESS HOSE CLAMPS

Made entirely of stainless steel, this line of Aero Seal hose clamps is designed for service where conditions require maximum corrosion resistance. Three most popular sizes are now available, but range will be extended to include all sizes from ½ through 4¼ inches.

Powerful worm gear drive is employed to tighten clamp. Other features include compact housing, no loose parts, openable band, vibrationproof holding, long take-up, uniform pressure which will not distort thin-wall tubing and ability to hold high pressures without leakage.

Though lighter and thinner than standard line of hose clamps, these stainless steel units have greater strength and flexibility than carbon steel. Mechanically interlocked saddle permits elimination of welds and assures maximum durability and holding power. Made by **Aircraft Standard Parts Co.**, Dept. ND, 1711 Nineteenth Ave., Rockford, Ill.

▲ Mention Item NED-776 when writing ▲

HOBART "One of the World's Largest Builders of Arc Welders."

Get the **ARC WELDING** *with Simplified Control of all Vital Elements.*

Good welds depend on fine adjustments — that's why Hobart with its 1,000 combinations of voltage and current, and its exclusive remote control is the choice of particular welders and production men everywhere. Hobart welders, gas or electric drive, are now available for important work. Ask us for delivery dates.

"Practical Design for Arc Welding" A design service, initial sheets FREE. Ask for them.

HOBART BROTHERS CO., Box ND-28
Troy, Ohio

HOBART *"Simplified"* **ARC WELDERS**

▲ Mention Item NED-778 when writing ▲

Widely applicable- **because of new "highs" in tolerance attainment**

The A to Z roster of BAER fabricated fibre parts is representative of practically every phase of industry. Precise engineering techniques in drilling, machining, punching, stamping, milling or sawing—plus the understanding of basic problems solved through a score of years in the field — substantiate the ability of BAER facilities to meet specifications to the letter. Inquiries pertaining to either present or post-war needs will be treated confidentially; send blueprints or sketches for recommendations. Collaboration will be promptly forthcoming, without obligation in any way.

Baer

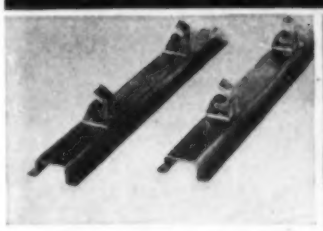
PHENOL AND VULCANIZED
FIBRE FABRICATIONS FOR INDUSTRY

WRITE FOR BULLETIN 132

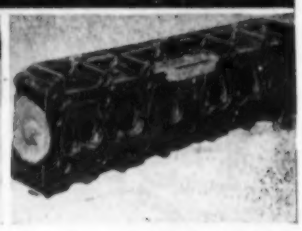
N. S. BAER CO. 9-11 MONTGOMERY ST. HILLSIDE, N.J.

▲ Mention Item NED-773 when writing ▲

AVOID WELDING STRESSES, DISTORTION AND OVERHEATING



Arc welding bombsight hanger on frame member of plane produced severe warping and misalignment. Eutectic Low Temperature Welding prevented distortion and formed strong joints.



Cast iron motor heads are safely repaired without danger of subjecting to stresses, eliminating need for costly and lengthy after machining always necessary to correct distortions.

USE

EUTECTIC

EUTECTIC (Pronounced U-tec-tic) Reg. U.S. Pat. Off.

Low Temperature **WELDING RODS**

Bond metals at temperatures as low as 340° F.

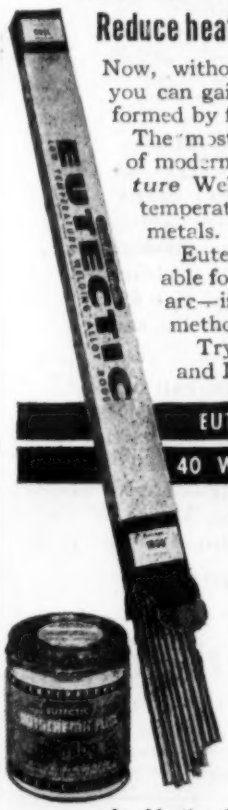
Reduce heat consumption...cut welding costs

Now, without resorting to high temperatures, you can gain the advantage of the strong bonds formed by fusion welding.

The most revolutionary welding development of modern times—EUTECTIC *Low Temperature* Welding enables you to join metals at temperatures below the fusion points of base metals.

Eutectic welding rods and fluxes are available for joining all metals by means of gas—arc—induction—furnace and all standard methods of heating.

Try Eutectic—for Production—Salvage and Maintenance welding.



EUTECTIC WELDING ALLOYS COMPANY
40 WORTH STREET, NEW YORK 13, N. Y.

☐ Send me full information for purchasing *introductory assortment* of important Eutecrods for Production Salvage and Maintenance welding.

☐ Please send The Eutectic Catalog BN 1. containing complete information about Eutectic *Low Temperature* Welding and its 6 great advantages.

Name_____

Company_____ Position_____

▲ Mention Item NED-779 when writing ▲

CONSERVE FUEL

by detecting waste with

ADSCO METERS

ADSCO ROTARY CONDENSATION METER

ADSCO FLOW METER

Present manpower and transportation conditions make it imperative to conserve fuel. The first requirement is to detect waste and inefficiency by installing adequate metering equipment.

THE ADSCO ROTARY CONDENSATION METER provides the most economical means of determining steam consumption wherever it is possible to collect the condensate from steam heating or processing lines in a building or department.

THE ADSCO FLOW METER is designed for Steam, Water, Air or Gas. Recommended where a 24-hour visual chart record of flow, an indication of the pressure and a totalization of the flow through the line is desired.

Write for Bulletins 35-80 and 35-83D.

AMERICAN DISTRICT STEAM COMPANY
NORTH TONAWANDA, N. Y.

▲ Mention Item NED-774 when writing ▲

Specify **CANNON ELECTRIC TYPE "AP" CONNECTORS FOR RADIO, TELEPHONE AND INSTRUMENT APPLICATIONS**

USED EXTENSIVELY BY U. S. SIGNAL CORPS

Type AP-CG-11 PLUG

Type AP-14 Receptacle

Available in Straight Cord Plugs, Angle 90° Plugs and Wall Mounting Receptacles, Type AP insert assemblies carry from two to six (incl.) 30-amp. contacts and one eight 15-amp. assembly. One inch insert diameter. Cord Plugs have ½ inch cable clamp. Two and three contact fittings are equipped with rubber reducer bushing. Shells are zinc, zinc plated.

Completely described in TYPE AP BULLETIN sent free upon request to Dept. A-112, Cannon Electric Development Co., 3209 Humboldt Street, Los Angeles 31, California.

CANNON ELECTRIC

Cannon Electric Development Co., Los Angeles 31, Calif.

Canadian Factory and Engineering Office:
Cannon Electric Company, Ltd., Toronto, Canada

▲ Mention Item NED-777 when writing ▲

FAST, UNIFORM PART MARKING...

WITH THIS Improved MERCURY TYPE HOLDER!

If the metal parts you manufacture require accurate marking or numbering for easy identification, this improved Mercury Type Holder is an outstanding help in simplifying your marking job!

This tool holds the entire part number—up to 20 characters if needed. Each character is rigidly aligned and held in place so that, with a single blow of a hammer, the entire number is clearly and neatly stamped on the part. It's fast, fool-proof—and entirely eliminates the time normally consumed when using dies for each separate letter or figure. Moreover, such common errors as wrong sequence, strike-overs, overlapping numbers, etc., are no longer a problem with the Mercury method!

INTERCHANGEABLE TYPE

And here's an outstanding feature: the Mercury Holder accommodates five type sizes, and all type is quickly interchangeable to meet a whole range of numbering needs. So, with even a single Holder and a selection of type sizes, you can be ready for any numbering job that comes along! The Mercury Holder is compact, important when working with small parts . . . it is of all-steel machined construction for long life . . . it has just four simple parts . . . and it has many other important features you should know about. Hardened and ground hand cut steel type is available in a full range of sizes.

Full details, including ordering data and specifications for both hand and press style holders, are available for the asking. Write Department E today!

IMMEDIATE DELIVERY!

MERCURY METAL DIE AND LETTER CO.
546 EAST 16TH STREET, LOS ANGELES 15, CALIFORNIA,

▲ Mention Item NED-780 when writing ▲

YOU'LL grade Fairbanks-Morse Scales 100% at providing always-legible weight records, at recording weights, and at counting parts and products.

Basically, of course, Fairbanks-Morse Scales are lastingly accurate weighing instruments. But they perform many additional timesaving, moneysaving services. They weigh even while materials are on the move. Weigh and disburse preset amounts automatically. Can keep ingredient proportions secret. Do many other often amazing jobs.

Perhaps our scale engineers can suggest modernizations to permit your present scales to serve you more efficiently, or ways in which specialized new scales would swiftly repay their cost. No obligation. Write Fairbanks, Morse & Co., Fairbanks-Morse Building, Chicago 5, Ill.

BUY WAR BONDS

Fairbanks-Morse
A name worth remembering

Diesel Locomotives • Diesel Engines • Generators
Motors • Pumps • Scales • Magnetos • Stokers
Railroad Motor Cars and Standpipes • Farm Equipment

▲ Mention Item NED-781 when writing ▲

HYDRAULIC SELECTOR VALVE

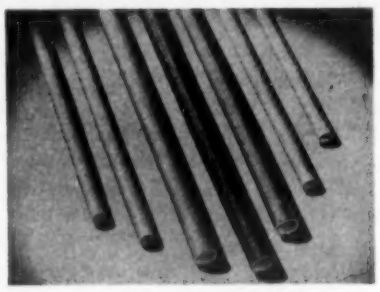
Having pressure drop of half that of other valves of similar size, No. AN-6213-1 Altair four-way hydraulic selector valve is available for ⅜-inch tube size. Of radial design, it employs plastic poppet valve elements. Body is permanent mold aluminum casting and cored fluid passages are oval rather than round in cross-section. This development, coupled with extremely short distance traversed by fluid through valve results in pressure drop of only 11 pounds per square inch with flow of 3½ gallons per minute.

Weight saving features are accomplished through simplicity of central cam design and radiating valve elements, as well as of plastic poppets which have eliminated need for inserted seats. It carries seal of weight approval of the Society of Aeronautical Weight Engineers at .86 pounds.

In addition to ⅜-inch tube size valve, ½ and ¾-inch tube size units are also available. All carry AN approval. Made by Pacific Div., **Bendix Aviation Corp.**, 11603 Sherman Way, North Hollywood, Calif.

▲ Mention Item NED-782 when writing ▲

GLASS INSULATING SLEEVING



Offering greater flexibility than was previously available in this type of product, Turbo single-saturated glass sleeving is insulating tubing. It does not absorb moisture and will not fray, split or crack. Any vivid, permanent color can be supplied. Claimed features include ease of assembly, ready color identification and wide range of sizes to fit any need. Made by **William Brand & Co.**, 274 Fourth Ave., New York 10, N. Y.

▲ Mention Item NED-783 when writing ▲

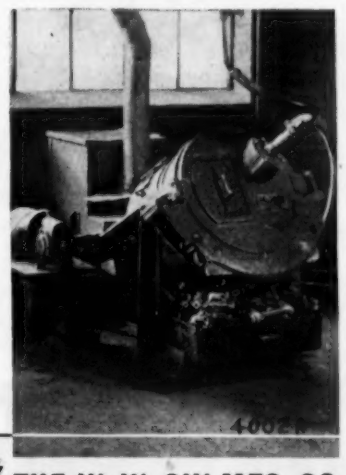
SPLIT-LEG APRON

Offering similar protection to that of overalls, Canpro split-leg apron may be worn over regular clothing. Easy to slip on and off, it furnishes leg protection which is required in handling kegs, boxes and crates. It is made from heavy O. D. water repellant canvas, with extra thickness at all points of reinforcement. It is doubly reinforced at midsection and at knees. Ample pocket space is provided and pockets are tear resistant. Leg sections extend well below knees. Made by **Canvas Products Corp.**, Fond du Lac, Wis.

▲ Mention Item NED-784 when writing ▲

QUICK SAND BLASTING
SLY No. 4 Tilted Blast Mill

Used extensively to clean small castings, forgings, stampings, tools, etc., on a production basis. Handles non-ferrous castings—cores and all—saves core removal time. Effectively cleans heat treat scale from hardened steel parts without damage to sharp edges.



Because of tilted barrel, it thoroughly mixes the load, exposes all surfaces to blast in shortest time. Automatic—requires but little attention.

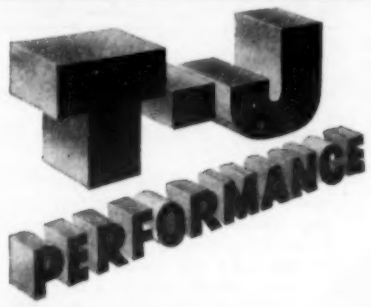
Ask for Bulletin No. S-82.

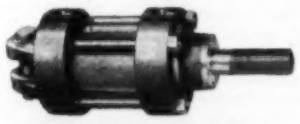
SLY THE W. W. SLY MFG. CO.
4748 TRAIN AVE., CLEVELAND 2, OHIO

▲ Mention Item NED-785 when writing ▲

CLEVELAND FASTENERS
THE CLEVELAND CAP SCREW COMPANY
2917 EAST 79TH STREET • CLEVELAND 4, OHIO
Warehouses: Chicago, Philadelphia, New York, Los Angeles
Ask your Jobber for Cleveland Fasteners

▲ Mention Item NED-786 when writing ▲





HYDRAULIC CYLINDERS

AIR CYLINDERS

RIVITORS

• T-J Products have shown outstanding ability to "take it"... performing tough jobs for industry with unbeatable *accuracy, efficiency* and *dependability!*

That's why more and more practical production men *specify* T-J where there's a job for Rivitors...hydraulic cylinders...or air cylinders ...cutters...Clinchors... or air controls. All T-J Products expertly engineered...precision-built ...rigidly inspected... right in every respect! Send for latest bulletins. The Tomkins-Johnson Co., Jackson, Michigan.

TOMKINS-JOHNSON
FOR TOUGH JOBS

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SMALL BUT MIGHTY

WALTON
Broken-Tap
EXTRACTORS

Yes, small in the amount of tool crib space they occupy, but a MIGHTY tool when put to the task of removing a broken tap.

Walton Tap Extractors get at those broken taps and complete the job without loss of valuable time.

List Prices from $1.50 to $5.00 each.
Simple and easy to operate. • Immediate Delivery!
WRITE FOR FOLDER NO. 26

The WALTON Company
94 ALLYN STREET • HARTFORD, CONN

▲ Mention Item NED-788 when writing ▲

An Important Development for:

- "Come-Alongs" on Welded assemblies
- Lifting Oil and Ash Barrels and other Metal Barrels or Box Containers
- Lifting Large Stamped Tank Heads or Tops

More of everything you need—plus greater plate handling range, from 0" thickness up. Especially suited for angles and structural assemblies. Drop forged completely in ½-ton, 1-ton, 3-ton and 6-ton capacities.

Bulletin and Prices on Request

MERRILL BROTHERS
38-07 Arnold Avenue
Maspeth, New York

▲ Mention Item NED-789 when writing ▲

We quote from a recent letter (unsolicited) from one of the largest aircraft engine plants in the country:

"3/8 - 16 - 4 flute bottoming tap for magnesium. This (Sossner) tap gave us a record run of 11,552 holes. I had the tap inspected before running. This finish is much higher than I find in the usual run of taps. And I believe that the success of the tap was largely due to this fact."

Tell us about YOUR tapping requirements and let us recommend a specific SOSSNER tap for your needs.

Also: Taps · Gages · Steel Stamps and Dies

SOSSNER

161 Grand Street, New York 13, N. Y.

▲ Mention Item NED-790 when writing ▲

HIGH PRESSURE HOSE

Sending out stream of water powerful enough to rip bark off of log, flexible hydraulic hose is braided with wire and specially fabricated to withstand this pressure. Hose is attached to debarking machine which is capable of stripping 20-foot log in 30 seconds. Paper and pulp mills have reported savings of 18 to 20 per cent in pulp and 20 per cent in manpower with debarking machine developed by Pacific coast pulp firm. Two jets of water spurt from nozzles mounted on mobile carriage. Pressure is so great that nozzles must be kept moving to prevent water from boring hole through log. Hose is 1½ inches in diameter and has withstood flexing millions of times in laboratory tests. Hose made by **United States Rubber Co.**, 1207 Rockefeller Center, New York, N. Y.

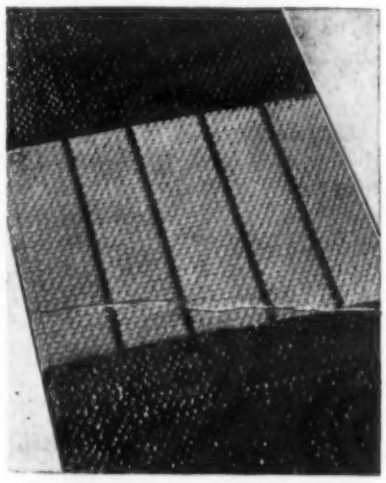
▲ Mention Item NED-791 when writing ▲

FLEXIBLE STAINLESS TUBING

Six-inch inside diameter stainless steel flexible tubing has been added to line of Rex-Flex stainless steel tubing which is designed to meet requirements of industry and aviation. Sizes are now available from 5/16 to 6 inches inclusive. Tubing is corrosion resistant, liquid and gas tight and is made in three types of wall structure. It is bendable in multiple planes for easy installation and long flexing life. Made by **Chicago Metal Hose Corp.**, Maywood, Ill.

▲ Mention Item NED-792 when writing ▲

FOOD CONVEYOR BELTING



Coated with plastic which will not absorb odors, PlasTex food conveyor belting is impervious to oils, greases, acids, alkalies and moisture. This material consists of semi-smooth, semi-glossy protective coating over solid woven cotton belting carcass. It is easy to clean and will withstand temperatures up to 240 degrees Fahr. Standard colors are red and white. Three standard constructions are available to meet individual conveyor needs. Regular coat, one side; regular coat, two sides, and heavy coat, carrying side—regular coat, pulley side are standard. Sizes to fit practically any conveyor installation are available. Made by **Buffalo Weaving & Belting Co.**, 11 Lafayette Ave., Buffalo 7, N. Y.

▲ Mention Item NED-793 when writing ▲

▲ Mention Item NED-794 when writing ▲

Do YOU KNOW about this HOLE CHECKER

The AMERICAN HOLE CHECKER is an extremely accurate precision instrument that utilizes a simple and scientific principle of air pressure to indicate the size, taper, bell-mouth and out-of-round condition of inside diameters. Will not damage micro-finished surfaces.

Used at a production machine, such as diamond boring machine, internal grinder, etc., the Hole Checker tells the operator just how the job is running. Specially designed sizing plugs are made to suit your production parts. Used by leading manufacturers on cylinders, bearings, piston pin holes, etc. Dial indicator registers .0001" or less.

Submit prints or sketches for quotations. Send for bulletin 43-NED.

MFRS. AGENTS — Inquiries solicited from established Sales Representatives. Many good territories still open.

THE AMERICAN GAUGE CO.
125 Bayard St. DAYTON 1, OHIO

▲ Mention Item NED-795 when writing ▲

Gives man a Giant's Strength

for pulling
hauling
dragging
moving

LINK-BELT Electric Car Spotter

One man with an L-B car spotter does the work of many—easily. Plants use it to spot cars, warp barges, tow trucks, bend pipe, move foundry flasks, skids, loads of all kinds. Controlled easily, surely, with a few turns of rope around the motor-driven capstan. Safe, simple, powerful, efficient.

stationary or portable models

Integral or separate motors
No. Five, 5 h.p. motor for 5,000 pound rope pull.
No. Ten, 10 h.p. motor for 10,000 pound rope pull.

9769 **WRITE:**

Get this FREE booklet No. 1992

LINK-BELT COMPANY
2410 W. 18th Street Chicago 8, Illinois

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YOU'RE IN FOR A DRUBBING

LITTLE DRIP!

That's What YOU Can Say When You Get Fel-Pro's FREE FOLIO of Sealing Materials

Lick your gasket problems by sending for this FREE FOLIO. The actual samples of 52 popular Fel-Pro sealing materials contained in this FOLIO make it easy for you to select more efficient gaskets, packing or stripping. Included in the FOLIO are specially developed Fel-Pro materials for sealing water, oil, steam, chemicals, corrosive gases, etc. Also *new* materials developed and perfected through Fel-Pro's war research.

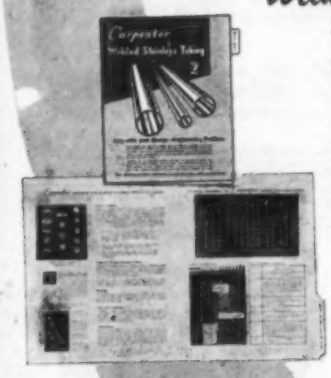
Write for your FREE FOLIO today . . . then if you can't find the material you're seeking, put your problems up to Fel-Pro's Special Development Staff.

FELT PRODUCTS MFG. CO.
1510 CARROLL AVE., CHICAGO 7, ILL.

SYNTHETIC RUBBER · ASBESTOS · FELT · FIBRE · PAPER · CORK
FEL-PRO GASKETS
packings • sealing materials

▲ Mention Item NED-797 when writing ▲

FACTS You Should Know about Welded Stainless Tubing



Wherever tubing is needed for corrosion resistance, especially in combination with heat transfer and resistance applications — there is a need for Carpenter Welded Stainless Tubing.

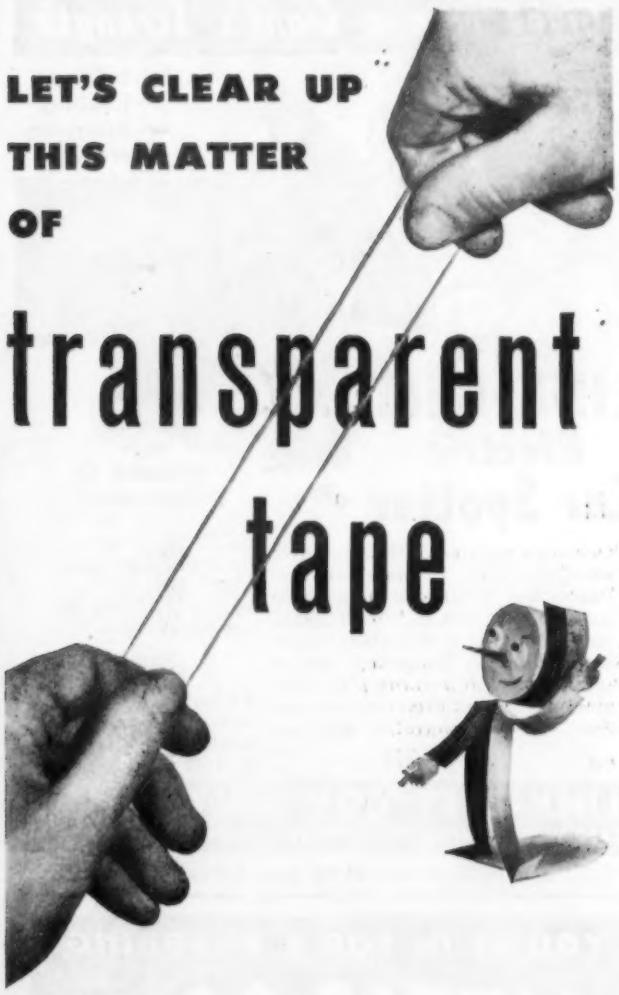
SEND FOR HANDY FILE FOLDER containing data on corrosion resistance, physical properties, available analyses, together with size, gauge, finish and other engineering information. Write for a copy today on your company letterhead.

THE CARPENTER STEEL CO.
Welded Tube Division . Kenilworth, N. J.

▲ Mention Item NED-798 when writing ▲

LET'S CLEAR UP THIS MATTER OF

transparent tape



Here's a tape that's clear as glass — and *stays clear*. It has no "curl back" — no tangle — no waste. It seals instantly — without water — speeds production — cuts down costs. Compare it — foot by foot, yard by yard — with any competitive transparent tape. You'll see why so many industrial and commercial users are switching to

FILMONIZE TRANSPARENT TAPE

Let your local distributor show you the entire FILMONIZE line — Transparent Tapes, Colored and Multi-Colored Tapes, Specially Printed Tapes, Riveting Tapes, Identifying Tapes, Splicing Tapes, Acetate Fibre Tapes. He can point out ingenious ways of saving you time and money —with one or several of these amazing products.

Widths of ½" to 18" throughout the line.

filmonize TRADE-MARK REG.
SELF-SEALING TAPES

INTERNATIONAL PLASTIC CORPORATION
Morristown, New Jersey

▲ Mention Item NED-799 when writing ▲

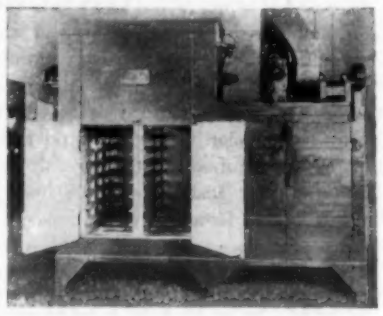
OSCILLATOR

Covering frequency range of 100 to 500 megacycles, type 857-A U-H-F oscillator is designed for use as power source for laboratory measurements. Maximum output is .5 watt or better over entire frequency range. Butterfly type frequency determining element is used and is new type of high frequency tuned circuit. In butterfly, inductance and capacitance are varied simultaneously with single circuit and no electrical contact to moving element is required.

Output circuit is inductively coupled to oscillator and output is controlled by varying coupling. Output terminal is coaxial jack. Type 857-P1 power unit supplied with device furnishes filament and plate power and operates on 115 to 230 volts alternating current, either 42 or 60 cycles. Electron ray tube is used to indicate oscillation. Made by General Radio Co., State St., Cambridge 39, Mass.

▲ Mention Item NED-800 when writing ▲

DRYING OVEN



High speed evaporation and drying of highly volatile solvents is accomplished in this standard box type oven. Self-contained, it is shipped assembled ready for operation or supplied in prefabricated sections which can be erected quickly at point of operation. All heating equipment and duct work is built into oven shell. Door sizes range from 3 feet wide by 3 feet high to 5 feet wide by 6 feet high, and working depth is 3 to 6 feet. Temperature range is from 150 to 900 degrees Fahr., held within 2 degrees.

Even though direct gas-fired, oven is insurance company approved for use in evaporation of large volumes of inflammable and explosive materials. Model illustrated has pre-heating section added which is heated by exhaust from main oven. This unit is used to dry fabricated paper parts which have been dipped in finishing solution consisting of approximately 50 per cent alcohol and 50 per cent solid matter. Drying time has been reduced from 25 minutes to 5 minutes over previous method. Costs have been reduced and hardness of finish increased. Previous brittle characteristic of finish has been eliminated, also.

Ovens may be used for evaporating products containing acetone, methyl-ethyl-ketone and many other highly volatile solvents. They can be converted without delay for other types of drying, finishing, heat treating or heat processing where materials can be handled in trays, jigs or baskets. Dense loads with high air stream resistance can be handled. Completely automatic controls of expansion recording thermometer or millivoltmeter type, either air or electrically operated, can be supplied. Made by The Industrial Oven Engineering Co., 11621 Detroit Ave., Cleveland 2, O.

▲ Mention Item NED-801 when writing ▲

WHEREVER WATER OR WATER SOLUTIONS ARE USED IN YOUR PRODUCTION PROCESSES CHANCES ARE YOU CAN SPEED UP PRODUCTION, SAVE MATERIALS, INSURE BETTER UNIFORMITY AND CUT WASTE BY Beckman —CONTROLLING THE pH OF YOUR PROCESS SOLUTIONS!

Let Our Engineers Help You! They have had wide experience in adapting pH control to modern industrial operations . from electro-plating to boiler feed water control, chemical processes to waste-disposal. They will gladly make recommendations to fit YOUR problem.

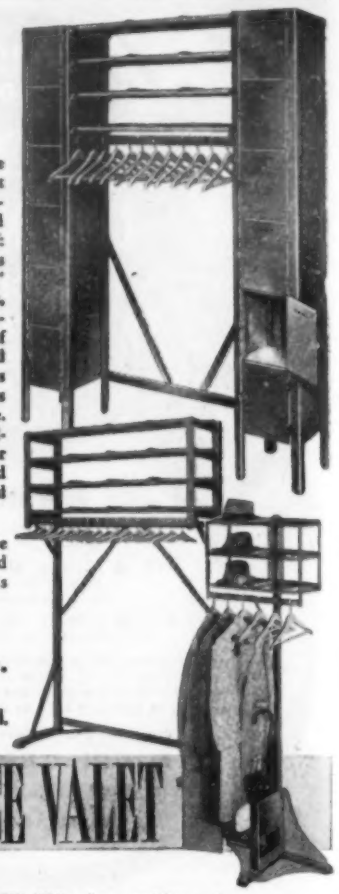
There is a size and type of Beckman pH instrument for every size plant—for every application. Write for literature!

NATIONAL TECHNICAL LABORATORIES • SOUTH PASADENA, CALIFORNIA

Beckman HAS PIONEERED EVERY MAJOR DEVELOPMENT IN MODERN pH CONTROL AND EQUIPMENT

▲ Mention Item NED-802 when writing ▲

Prompt Delivery for Permanent Installations



These modern wardrobe racks are not temporary "war baby's", but are built for permanent installations, incorporating all patented PETERSON efficiency features of: Spaced coat hangers, where wraps are kept dry, aired and "in press." Individual ventilated hat spaces, Space-saving efficiency—accommodate 3 or 4 persons per sq. ft. of floor space. Where desired *built-in*, lock boxes, umbrella racks and overshoe shelves. Buy this equipment today with confidence. Matching add-on units will be available in both wood and in steel over the years, in single and double faced costumers, wardrobe racks and locker units.

Write for catalog sheets and name of local dealer. Buy what you need today and add matching units as required.

Write for Bulletin G-8

VOGEL-PETERSON CO.
"The Checkroom People"
624 So. Michigan Blvd., Chicago 5, Ill.

The OFFICE VALET

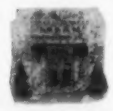
▲ Mention Item NED-803 when writing ▲

Logan

...a name to remember when you think of BETTER lathes

A lathe is judged by the kind of job it does, and by nothing else. That one fact explains why Logan Lathes have made such headway. The men in the shops, and the executives as well, *like* the kind of job that Logan Lathes do. Here are four reasons why:

- Advanced engineering in the spindle mounting, in the countershaft, in the back gear arrangement, in the bed construction, and in many other points.
- More exacting standards and closer tolerances are maintained in building Logan Lathes.
- Logan Lathes are built in a new, modern factory, equipped with the best machinery and tooling obtainable.
- A management policy, stressing quality of production rather than volume, that has produced a personnel of loyal workers.



Further messages in this series will give you more reasons why it will pay to see your Logan dealer or get the Logan catalog before you buy a lathe.

LOGAN ENGINEERING CO.
CHICAGO 30, ILLINOIS
A-4
Logan a name to remember when you think of BETTER lathes

▲ Mention Item NED-804 when writing ▲

Hammond of Kalamazoo

HAMMOND F-2 FLEXIBLE BELT GRINDER

FOR LARGE AND SMALL PLANTS

Eliminate slow, costly methods by installing at least one Hammond F-2 Flexible Belt Grinder in each department throughout your plant . . . for better, faster deburring, chamfering and grinding operations. Write today for bulletin 308-A.

No. 5 GRINDER-POLISHER
Low cost grinding, polishing, deburring, brushing and buffing.

CARBIDE GENERAL PURPOSE & ABRASIVE BELT GRINDERS • AUTOMATIC & CYLINDRICAL FINISHERS • POLISHING LATHES

Hammond Machinery Builders INC.
1623 DOUGLAS AVENUE • KALAMAZOO 54, MICHIGAN
Eastern Branch: 71 West 23rd St., New York 10, New York

▲ Mention Item NED-805 when writing ▲

One Hour from Now May Be Too Late!

THE MACHINE that needs oil needs it now. One hour from now may be too late. Irreparable damage may be done and the production of your entire plant may be halted.

That is why thousands of industrial plants need Phillips Portable Oil and Solvent Dispensers for servicing machines quickly.

Typical of Phillips' complete line is the Model 81-GT shown at right. Equipped with 16" wheels and 6" swivel casters, it can quickly and easily be moved to any desired spot. Capacity of the tank is 65 or 120 gallons. Can be furnished with rotary pump—capacity 12 G.P.M.

For complete information see your mill supplies distributor or write

PHILLIPS PUMP AND TANK CO.
5004 Brotherton Road
CINCINNATI 9, OHIO

PHILLIPS

It's a Phillips

▲ Mention Item NED-806 when writing ▲

4360 TYPES OF EVERLASTING FASTENINGS *in Stock*

BECAUSE of these large and varied stocks, Harper is known as "Headquarters for Everlasting Fastenings" . . . "Your Logical Source" of non-ferrous and stainless bolt and nut products.

At Harpers the buyer finds three unique and distinct advantages. First, large stocks of all types of fastenings such as bolts, nuts, screws, washers, rivets and specials; second, fastenings in all the commercial non-ferrous and stainless alloys except aluminum, e.g. brass, copper, naval bronze, silicon bronze, Monel and stainless steel; third, large stocks of metals in bars, rods, wire, strip and other basic forms from which special fastenings can be quickly made according to specifications.

1945 CATALOG AVAILABLE. New in usefulness to the metal industries. 104 pages, 8½" x 11", 4 colors.

THE H. M. HARPER COMPANY
2628 Fletcher Street, Chicago 18, Illinois
BRANCH OFFICES: New York City • Philadelphia
Los Angeles • Milwaukee • Cincinnati • Houston
Representatives in Principal Cities

HARPER
EVERLASTING FASTENINGS

BRASS • BRONZES • COPPER
MONEL • STAINLESS

▲ Mention Item NED-807 when writing ▲

MACHINED PARTS PROTECTORS

Affording internal and external safeguards against damage, this line of thread protectors and dust caps is adaptable to threaded and machined parts, fittings and other equipment. They are made of spiral-wound fiber, kraft paper or cellulose acetate under heat treated compression. Of durable construction they protect fittings, exposed openings and ends, tubing and other products from moisture, dirt, grit, dust or damage in packing, storage or shipping.

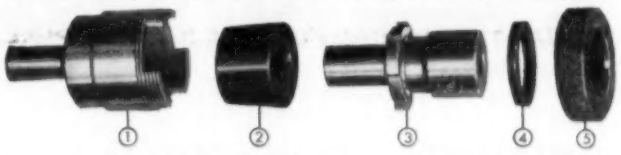
Protectors are shaped to contour of article to be safeguarded and include cylindrical, square, rectangular, tapers, crimped, flared or perforated types. Tolerances on dimensions are within .003 inch. Name of part number, as well as name of manufacturer can be imprinted on protector. Made by **Precision Paper Tube Co.**, 2039 W. Charleston St., Chicago 47, Ill.

▲ Mention Item NED-808 when writing ▲

FLEXIBLE TOOL HOLDER

Made for both large and small turret head lathes, engine lathes, drill presses, tappers and small portable electric drills, Tool-Flex flexible tool holders have simple, oil resistant Neo-

TOOL-FLEX TURRET LATHE MODEL, STRAIGHT SHANK



prene synthetic rubber insert as universal joint in which tool floats. Construction consists of body or shank, rubber insert, holder, rubber grommet and retainer cap in turret lathe model, as shown. Other types dispense with grommet and have only four parts.

It is designed expressly as follow-up tool. It compensates for both parallel and angular misalignment of turret head or tail stock with spindle. It permits reamer, counterbore or hone to follow and by relieving side pressure, prevents bell-mouthing, oversize holes and tool marks. Wear on tool and jig bushings is reduced and close tolerance work is assured.

Neoprene insert absorbs shocks in such operations as tapping and portable tool drilling, greatly reducing tool breakage. Vibration in jigs is practically eliminated. Flexibility is balanced, so that concentricity of entire tool is maintained for precision work. Tightening or loosening of retainer cap increases or decreases counteraction of rubber insert to compensate for varying degrees of misalignment or character of work.

When used in portable drills device prevents binding, compensates for incorrect positioning and cushions shock when drill breaks through. Chuck arbors, reamer holders and Morse taper sleeves are interchangeable in any style body of same size. All metal parts are of hardened and ground alloy steel. They are available with ½ to 2-inch straight shanks, female taper 2-A or 33 for drill press spindles and Morse taper shank sizes Nos. 2, 3 and 4. Announced by **Richmont, Inc.**, 215 W. Seventh St., Los Angeles 14, Calif.

▲ Mention Item NED-809 when writing ▲

INSTANT HEAT!

IDEAL *Electric* SOLDERING TOOLS

Not just ordinary soldering irons, but specially designed soldering tools to do every kind of soldering job. Melt new, high melting point solder—quickly. Available in a wide variety of models.

Immediately Available

Heat the *work*, not just the soldering tool.

Write for Detailed Literature

IDEAL *Sycamore*

IDEAL COMMUTATOR DRESSER CO.
1032 Park Ave. Sycamore, Ill.
Sales Offices in all Principal Cities
In Canada: Irving Smith, Ltd., Montreal, Quebec

▲ Mention Item NED-810 when writing ▲

Avoid production delays! Use

MACWHYTE WIRE ROPE SLINGS

It is no longer necessary to use makeshift, homemade slings to handle your materials. You can get Macwhyte Wire Rope Slings made to order for quick, easy, safe handling. Plan now to have Macwhyte Slings on hand ready for use when needed.

Ask for Macwhyte Sling Catalog!

Lists reliable strengths and safe loads for many types and sizes. Mail request on your company letterhead to Macwhyte Company, Kenosha, Wisconsin, or any Macwhyte distributor.

MACWHYTE COMPANY
2932 Fourteenth Avenue • Kenosha, Wisconsin

NO. 776-S

▲ Mention Item NED-811 when writing ▲

TOOLS for MACHINE MAINTENANCE

Machine maintenance is too important to trust to any but the best tools. The in-built capacity of Stanley Tools for handling tough jobs with accurate results has helped mightily in keeping machines adjusted, repaired and producing.

When it is necessary to replenish your supply of maintenance tools, reach for a Stanley Catalog and make your choice. They will pay off in production and profit. Send for Stanley Catalog No. 50.

STANLEY TOOLS
135 Elm St., New Britain, Connecticut

THE TOOL BOX STANLEY OF THE WORLD

▲ Mention Item NED-812 when writing ▲

Improved FITTINGS

Weatherhead manufactures fittings for a wide variety of applications. These include SAE, inverted compression and AN types. We are the sole makers of the new, patented Ermeto fitting. For information or literature, write or phone any Weatherhead branch office.

Look Ahead with

Weatherhead

THE WEATHERHEAD COMPANY, CLEVELAND 8, OHIO
Branch Offices: New York, Philadelphia, Detroit, Chicago, St. Louis, Los Angeles

▲ Mention Item NED-813 when writing ▲

AND THE MARKS STAY ON!
"Reddy" Markal

All-important identifying marks made with MARKAL PAINTSTIKS won't come off—unless you take them off. Sun, rain, cold, sleet, snow—no weather condition can destroy them. Besides, MARKAL PAINTSTIKS penetrate wet, moisture-frozen, or oily surfaces—they mark right through them.

MARKAL PAINTSTIKS are made of special weather-resistant paint. The marks are clear, distinct, positive—not messy like the old paint bucket and brush method. Your records are safe and permanent when you "Mark with Markal".

Choice of Colors

Made for all hot and cold surfaces

WRITE FOR SAMPLES AND LITERATURE

A Specific Type MARKAL PAINTSTIK for Every Marking Job

MARKAL CO. 621 N. Western Ave. Chicago 12, Ill.
"Originators of Paint Sticks"

▲ Mention Item NED-818 when writing ▲

EVERY BIN A MONEY MAKER

Tool up with the right "tools"—N & F bulk storage bins. Conveyor equipment to deliver coal, coke, lime, cement, sand—anything that will flow—direct to point of use.

Time, labor, material saved soon offsets cost. A thousand in service, many at the largest industrial plants in the country. Any size or capacity. Stave or monolithic. Engineering service. Erection crews. Write for catalog.

THE NEFF & FRY CO.
CAMDEN, OHIO

NEFF & FRY BINS

▲ Mention Item NED-819 when writing ▲

In War, as in Peace...
CERRO ALLOYS
SAVE TIME and CUT COSTS!

CERROMATRIX (Melting Temp. 250° F.) For securing punch and die parts, anchoring machine parts without expensive drive fits, short run forming dies and other metal-working applications.

CERROBEND (Melting Temp. 158° F.) Used as a filler in bending thin-walled tubing to small radii. Easily removed in boiling water. Also used for aircraft assembly jigs, templates for forming dies and other purposes.

CERROSAFE (Melting Temp. 190° F.) Used to accurately proof-cast cavities such as molds, gun chambers, forging dies, etc. and for many similar applications.

REPRESENTATIVES AND DISTRIBUTORS

BROOKLYN, N. Y., Belmont Smelting & Refining Works
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BOSTON, MASS., Jackson Associates.
PHILADELPHIA, PA., Castaloy Metal Sales Company.
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CLEVELAND, O., Die Supply Co.
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DETROIT, MICH., Castaloy Metal Sales Company.
HOUSTON, TEX., Metal Goods Corporation.
KANSAS CITY, MO., Metal Goods Corporation.
TULSA, OKLA., Metal Goods Corporation.
LONDON, ENG., Mining & Chemical Products, Ltd.
LOS ANGELES, CAL., Castaloy Metal Sales Company.
MILWAUKEE, WISC., Harry C. Kettleson, Inc.
MINNEAPOLIS, MINN., Northern Machinery & Supply Co.
MOLINE, ILL., Sterling Products Co., Inc.
MONTREAL, CAN., Dominion Merchants Ltd.
NEW ORLEANS, LA., Metal Goods Corporation.
ST. LOUIS, MO., Metal Goods Corporation.

CERRO DE PASCO COPPER CORPORATION
40 WALL STREET - - - NEW YORK 5, N. Y.

▲ Mention Item NED-820 when writing ▲

AIR DEHUMIDIFIER

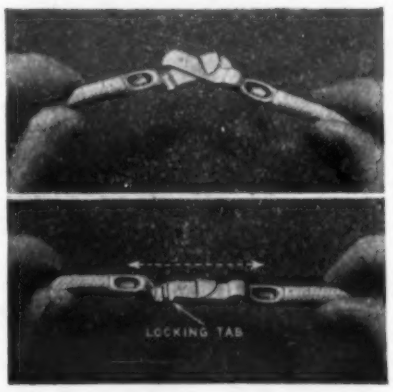
Intended for both commercial and industrial use, this Water-Sorber dehumidifying unit dries air in warehouses, tool rooms, stock rooms, vaults, basements and other confined spaces. It thus prevents harmful dampness, mold and mildew. Single unit has ample capacity to service from 800 to 1000 cubic feet of space. For larger areas, multiples of two or more units may be employed.

Complete unit is shipped inside air-tight metal container. It can be set up, ready for use, in a few seconds. Shipping weight is 15 pounds, including 10 pounds of cubes which are also available in additional 10-pound cans. Chemical cubes are used in place of conventional types of moisture absorbents. It is claimed that these cubes present large areas of exposed surface and thus permit maximum absorption of moisture from air.

Terraced construction is used. Three receptacles placed one below the other catch residue liquid in descending stages and permit this liquid which contains active chemical absorbent to continue to draw moisture from air. Approximately 70 per cent additional absorption capacity is obtained. Air passes over chemical cubes, entering at bottom of container through perforations. Flue action assures flow of air to be dried over chemical cubes. List price is $4.50, including 10 pounds of cubes. Additional cubes are $1.40 per 10-pound can. Made by **General Air Conditioning Co.**, Dept. B, 4423 Appleton St., Oakley, Cincinnati, O.

▲ Mention Item NED-821 when writing ▲

UNLOCKING CONNECTOR

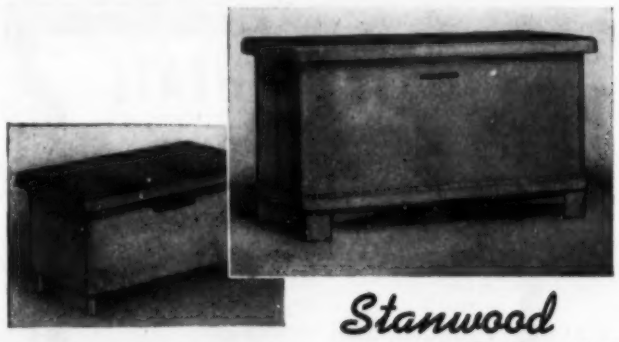


Designed especially for small wires and approved by Army Air Forces, self-locking, quick-disconnect type Clasp electrical connectors are composed of identical halves which slide together in jack-knife fashion and lock in positive position with slight pull. This locking feature prevents loosening or pulling apart in service. Connection is easily opened by pushing halves together and giving them slight swing.

Ample pressure assures good electrical contact. Units are made of silver plated copper and are resistant to corrosion. Hydent principle is employed for gripping cable ends to connector halves. Clamp socket is indented to cable strands to form permanently tight, shockproof joint. Hytool effects this connection in single operation.

Four sizes accommodate ten sizes of aircraft cable from No. 18 to No. 8. Two smaller sizes have insulation grip on cable sockets. Made by **Burndy Engineering Co.**, 107 Bruckner Blvd., New York 54, N. Y.

▲ Mention Item NED-822 when writing ▲



Stanwood
Carburizing Boxes Can Take It!

We mean they can take the high temperatures, and the abuses of loading and handling and still give a long service life—far beyond what you would expect, considering their cost. Available in a variety of shapes of rolled alloy plate or plate and casting combinations to suit your heat treating requirements. Next time you need boxes, try Stanwood and keep a careful cost record—*you'll repeat!* Send for Bulletin 14—pictures fabricated containers, baskets, trays, fixtures.

Stanwood Corporation
FABRICATED METAL PRODUCTS
4921 W. Cortland St. Chicago 39, Ill.

▲ Mention Item NED-823 when writing ▲

"Interior Decorating" ISN'T OVERLOOKED, EITHER, IN BUILDING WISCONSIN Air-Cooled ENGINES

The interior of every Wisconsin Engine casting is sprayed with red sealer. This adds nothing to the "beauty" of the engine but it IS an important service and maintenance precaution — because it forever seals any loose particles from entering the oiling system and causing trouble.

Small details such as this are important in safe-guarding the engine user against equipment lay-ups and expense which could otherwise result. You get dependable, heavy-duty serviceability when a Wisconsin Engine is on the job.

Most H.P. per pound
WISCONSIN MOTOR Corporation
MILWAUKEE 14, WISCONSIN, U. S. A.
World's Largest Builders of Heavy-Duty Air-Cooled Engines

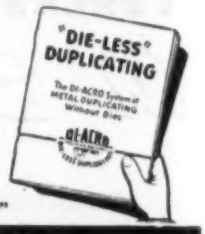
▲ Mention Item NED-824 when writing ▲

METAL Stampings DUPLICATED WITHOUT DIES

If you desire to save time and critical materials on production of metal stampings or other small parts, then the DI-ACRO System of "Metal Duplicating Without Dies" merits your consideration. It is based on the rapid and accurate production of formed parts with DI-ACRO Shears, Brakes and Benders. All duplicated work is accurate to .001". These precision machines are adaptable to an endless variety of work, and ideally suited for use by girl operators. For short runs your parts are processed in a matter of hours instead of waiting weeks for dies.

Send for This Catalog
"DIE-LESS DUPLICATING"

It illustrates many stampings or parts made without dies, gives full details on DI-ACRO machines and shows how they may readily be adapted for various applications. Request your copy now.



◄ Pronounced "DIE-ACK-RO"

DI-ACRO PRECISION MACHINES DIE-LESS DUPLICATING
O'NEIL-IRWIN MFG. CO.
354 EIGHTH AVE. SO., MINNEAPOLIS 15, MINN.

▲ Mention Item NED-825 when writing ▲

SAVE TIME
REDUCE WASTE
IMPROVE PRODUCTS

with this
G-E Automatic Time Switch

CHOICE OF SCALES ranging from 0-10 seconds to 0-6 hours make it useful for many process and machine timing jobs.

ADJUSTABLE TIME-DELAY opening or closing of circuits. Telechron motor drive assures accurate, dependable timing.

EASILY AND CONTINUOUSLY ADJUSTABLE—by means of external time-set knob—over entire scale, which is large and easy to read.

Type TSA-10—for jobs where accurate timing is important. Leaflet GEA-1771 will give you full information. Our handy chart (GES-2608) will help you select other G-E time switches for specific needs. Write today. General Electric, Schenectady 5, N.Y.

GENERAL ELECTRIC

▲ Mention Item NED-826 when writing ▲

HIGHER PRODUCTION 2 to 1 with ATLANTIC GRINDING WHEELS

Production of one part was **Increased from 85 to 180** per man-hour in an aircraft engine plant which changed to Atlantic Type AK Wheels.

ENGINEERED FOR MAXIMUM PRODUCTION

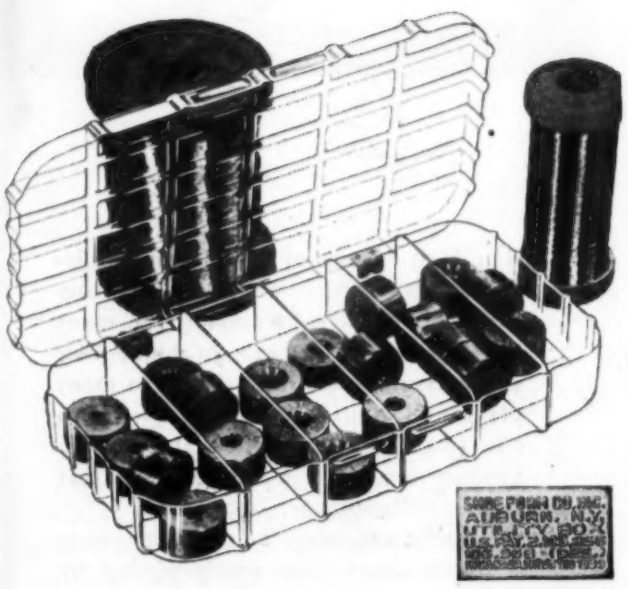
See how your output, too, can be increased by our Type AK Wheels! They're **engineered** to be safe and cool at higher grinding speeds. Write today for the free, technical service of an Atlantic engineer. Atlantic Abrasive Corp., 525 Pearl St., South Braintree, Mass.

Atlantic PATENTED RESINOID BONDED GRINDING WHEELS

▲ Mention Item NED-827 when writing ▲

Pyra-Shell
Reg. U.S. Pat. Off.

TRANSPARENT UTILITY BOXES



Stock room storage of important small parts — like the dies for drawing wire shown above — is speeded up and simplified when Pyra-Shell Patented Transparent Utility Boxes are used. While these parts are fully protected against dirt, dust and destructive grit — they are visible at all times, preventing delay in locating any one part instantly.

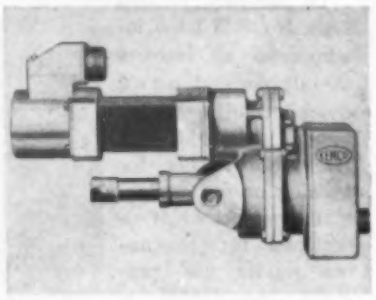
Pyra-Shell boxes are light in weight but their special patented construction makes them exceptionally sturdy and strong. They are available in a wide variety of standard sizes and compartment arrangements. If one of these standard styles will not meet your particular needs, a special size, style or compartment arrangement can be designed for your particular use.

Write for folder illustrating standard styles. Address— Utility Box Dept. D

SHOE FORM CO. INC.
AUBURN, N. Y.

▲ Mention Item NED-828 when writing ▲

MOTOR-DRIVEN ACTUATOR



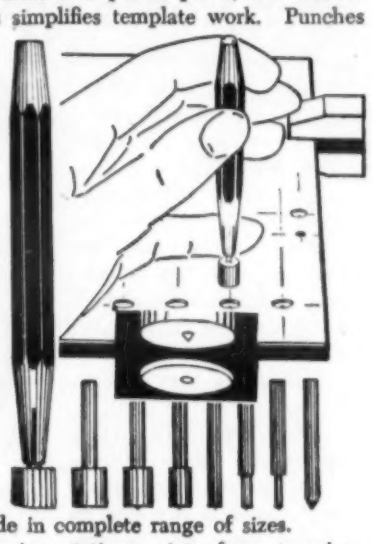
Not much larger than man's hand, two of these self-contained electric motor driven actuating units provide power to operate dive brakes on Lockheed P-38 fighters. Uniform flap operation on both wing panels is provided in matter of seconds. Actuators may be used to replace units in earlier models without major structural modifications.

Power package is 10,000 revolutions per minute, 1¼-horsepower electric motor which is equipped with magnetic clutch and brake to prevent overtravel. Screw jack actuator is driven by double gear reduction unit which is integral part of device. Maximum force of 3000 pounds is exerted, with 2½ inches travel on jack in less than 2 seconds. Control gear reduction drive turns cam for opening and closing limit travel switches. Additional take-off shaft provides for positioning indicator. Unit is operated by push button in pilot's compartment. Made by **Electrical Engineering & Mfg. Corp.**, 4606 W. Jefferson Blvd., Los Angeles 6, Calif.

▲ Mention Item NED-829 when writing ▲

TEMPLATE TRANSFER PUNCH

Insuring correct guide for layout tools such as trammels, dividers, scribers, center drills and punch pilots, this line of template transfer punches simplifies template work. Punches and holders are made of tool steel and heat treated for long service on all metals.



Points are uniformly concentric with bodies and are accurate to size within .0004 inch. Wide range of sizes may be stocked at low cost. Additional punches and replacements are available from stock. Saving in weight is obtained by using universal holder and small punch. Octagonal holder takes scriber, prick punch or other tool. Punches are made in complete range of sizes.

In addition to transferring station points from templates to work, punches may be used for panel layouts, locating instrument pivot holes, aligning plates for drilling and tapping, locating dowel pins and screws in die sets, tap drill locating from body size holes, transferring station and center marks from parts to jigs and fixtures, and aligning and refitting replacement parts.

Punches for light gage templates are made in 19 standard diameters from .040 to .375 inch, with points .020 inch high and single holder serves all punches. Heavy duty punches are available in seven diameters from ⅛ to ½ inch and have universal holder. Solid type punches are made in seven sizes from ⅛ to ⅝ inch. Special types and sizes can be made to order. Made by **H. D. Allen**, 3201 Casitas Ave., Los Angeles 26, Calif.

▲ Mention Item NED-830 when writing ▲

The SMALL hoist with the BIG hoist features

The Titan is a compact, lightweight, electric hoist; easily installed, simple to operate. It is inexpensive to buy, costs practically nothing to operate, handles loads up to 250 pounds; is fast and makes handling safer for both men and materials

Ask For further information on this time saver and production increaser; also for Titan Bulletin 801.

Titan ELECTRIC HOIST

1. Trolley Suspension for traveling on a monorail.
2. Hook Suspension—hang up and use anywhere.
3. Plug In—use single phase lighting current; but made also for multi-phase power.
4. Cone Drive—continuous contact, the latest in worm gearing.
5. Push-Button Control; quick, convenient and safe.

DETROIT HOIST & MACHINE CO.
8203 Morrow Street
Detroit 11, Mich.

▲ Mention Item NED-831 when writing ▲

Here's a Valuable Catalog For IMMEDIATE USE— and your file!

Most complete of its kind yet published. Just off the press.

Klemp OPEN STEEL GRATING AND STAIR TREADS

Scores of applications in and around plants, commercial buildings and institutions, listed. Large photographs of installations. Complete engineering drawings and tables. Get details of KLEMP rugged welded and riveted construction for load-bearing and protection.

Literature also available on KLEMP Hexteel, Heavy Duty Floor Armor, KLEMP Floorsteel, the floor armor that rolls out like a rug, KLEMP Steel Safety Mats, etc. Wire or write

WM. F. KLEMP COMPANY
6607 S. Melvina Avenue • Chicago 38, Illinois

▲ Mention Item NED-832 when writing ▲

SAFETY LESSON I FROM WORLD WAR II

Head and Eye Protection by CESCO
Chippers' Goggles
Welders' Goggles
Dust Goggles
Cover Goggles
General Safety Goggles
Face Shields • Hand Shields
Welding Helmets
Dust Respirators
Fume Respirators
Abrasive Masks
Grinder Guards

Industries have learned that CESCO head and eye protection means a reduction of accident frequency and severity rates.

This is a lesson to remember.

CESCO has solved thousands of safety problems. That's worth remembering, too . . . for those who have used CESCO safety equipment, and for the many more who will use it after the war.

GET THE WHOLE STORY See CESCO'S new 48-page catalog. Write for your copy today.

CESCO
CHICAGO EYE SHIELD CO.
2328 Warren Boulevard • Chicago 12, Illinois

CESCO FOR SAFETY

▲ Mention Item NED-833 when writing ▲

HEXACON is helping to do the job at SPERRY

HATCHET TYPE IRON for better balance and less operator fatigue

Offering even greater ease in handling than the light-weight irons now used for difficult, intricate soldering, the Hatchet Type iron is especially engineered and designed for operator comfort. Non-tiring even after hours of continuous use, these soldering units have all the extra advantages included in every HEXACON iron — replaceable elements of highest grade nickel-chromium wire, tips of hard-drawn copper, hexagon-shaped barrels for maximum heat dissipation during intermittent use, Underwriters' Laboratories approval, etc.

WRITE FOR ILLUSTRATED BULLETINS
The complete diversified range of HEXACON soldering irons is described in detail in fully-illustrated literature. Ranging from 40 to 700 watts, and with tip diameters from ¼" to 1¾", HEXACON irons are available to meet every requirement. Write today—there is no obligation.

HEXACON ELECTRIC CO.
145 W. Clay Ave., Roselle Park, N. J.

HIGH-QUALITY LONG-LASTING SOLDERING IRONS HEXACON

▲ Mention Item NED-834 when writing ▲

Titan Double Deoxidized Welding Rods together with Brass and Bronze Free Turning Rods are now available.

★

Brass Pressure Die Castings and Hot Pressed Parts will again be available when they have helped our armed forces win final victory.

TITAN METAL MANUFACTURING CO.
BELLEFONTE, PENNA.
NEW YORK ..... CHICAGO ..... SAN FRANCISCO

▲ Mention Item NED-835 when writing ▲

QUICK CHANGE GEAR LATHE

Of compact, cabinet type, No. 825 lathe incorporates all features of standard Logan quick change gear lathes. It is adaptable for toolroom work, for training or for production operations. It is designed for continuous service and precision construction is used throughout.

Carriage with friction feed automatic apron travels over bed which is ground to within .0005 inch of absolute accuracy. Total run-out of headstock spindle 12 inches from bearings is less than .001 inch. Lead screw is held to within .002 inch in 12 inches. Spindle turns on double row of preloaded precision ball bearings and forty other points of friction are equipped with self-lubricating bronze bearings.

Prime mover and underneath drive are enclosed in left compartment of four-drawer, stipple-finished gray steel cabinet. Multiple V-belt drive transmits power from cone pulley to spindle. Adjustments of both flat and V-belt tensions are readily accessible. Three-point type base assures a steady installation on any type of floor. Made by Logan Engineering Co., 4904 W. Lawrence Ave., Chicago 30, Ill.

▲ Mention Item NED-838 when writing ▲

TWO-MOTOR WIRE STRIPPER

Cleaning of cotton and enamel, silk and enamel, string asbestos and similar types of light insulation from round, flat or rectangular, solid or stranded wire of any length is performed readily with this brush type, two-motor wire stripper. It is claimed to be ideal for cleaning fine Litz, Formex, Formvar wire and removing fiber glass insulation.

Two wire cleaning brushes are driven positively by separate motors. Right hand motor is mounted on pivoted base and is normally held up by spring. This keeps brushes apart to increase their life. Strippings, dust and dirt are removed by a dust collector, driven by separate motor. This unit has dust capacity of 1 cubic foot per minute and is rated at 60 cubic feet per minute at .55 inch static pressure. Stripper can be installed on any production line bench.

To strip wire, it is inserted in opening and foot pedal is pressed. This brings upper revolving brush down against wire and lower revolving brush. Wire is quickly stripped clean. If desired, distance between brushes may be set to diameter of wire, thus eliminating pedal action. Brushes are made in sections of steel wire and ground to size. Each section is replaceable as it becomes worn, simplifying maintenance and reducing cost. Made by Ideal Commutator Dresser Co., 1032 Park Ave., Sycamore, Ill.

▲ Mention Item NED-839 when writing ▲

AUTOMATIC TORQUE WRENCHES*

OVER 60 MODELS AND SIZES

Recognition of the importance of proper torque and how it is easily achieved is one of the most recent advancements in American Industry. Livermont Torq-Stop Wrenches have made this recognition and achievement possible.

Shown above are but a few of the many models of Livermont Torq-Stop Wrenches which assure accurate precision torque operations with tools slightly larger than ordinary wrenches.

Automatic, in that they give both sound and physical indications when proper torque loads are reached. Livermont Torq-Stop Wrenches have no dials, batteries or attachments to confuse or delay the mechanic using them. They are the ideal wrenches for today's assembly-line and maintenance work.

WRITE TODAY FOR FULLY ILLUSTRATED CATALOG GIVING THE STORY OF "THE IMPORTANCE OF PROPER TORQUE" and showing the complete line of Livermont Torque Tools NED-12

** Case histories prove that modern automatic torque tools pay for themselves many times over through savings in time, reduction of rejects and errors.*

Richmont Inc.
215 West 7th Street, Los Angeles 14, California
Eastern Representative: 428 New Center Building, Detroit, Michigan

▲ Mention Item NED-841 when writing ▲

KEEP EVERYTHING UNDER VEEDER-ROOT

"COUNTROL"

. . . and make your production COUNT FOR MORE

There's less chance for parts stocks to run out or overflow through oversight or error when Veeder-Root Devices count all units of machine-performance all along the line, through every operation. The *right number* of pieces or sub-assemblies can be finished at the *right time* . . . and that's what counts in war production. Complete Veeder-Root "*Countrol*" is easy to install, for there is a type of Veeder-Root Device to record the performance of any machine or process . . . mechanical or electrical . . . in any terms or units like turns, strokes, pieces, trips, volumes, lengths.

VEEDER-ROOT INC., HARTFORD 2, CONN.

▲ Mention Item NED-836 when writing ▲

ADVANTAGES OF INSTALLING

SCHRAMM

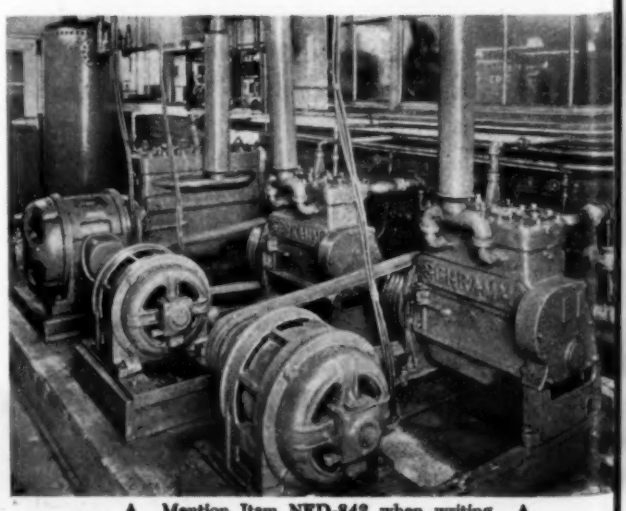
AIR COMPRESSORS IN UNIT SYSTEMS

The Unit System of air compressor installations is becoming widely recognized in industry because of the many advantages in taking care of the *variable* compressor loads that exist in so many plants and shops. So often in these shops a lot of air is required at certain periods, a minimum amount at other periods, that Unit installations are desirable.

Another advantage of the unit system is to eliminate unnecessary piping by conveniently installing the compressors in different sections of your plant.

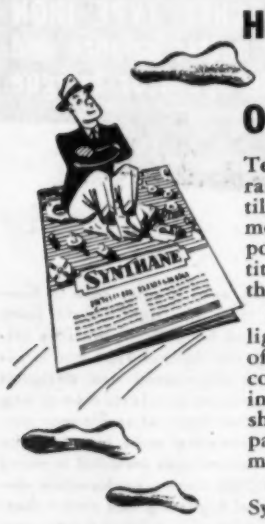
Schramm features: 100% water cooled . . . lightweight and compact . . . is vibrationless, even when providing great amounts of air. These—and many other features—make Schramm the economical air compressor. For full details write today.

SCHRAMM INC. THE COMPRESSOR PEOPLE WEST CHESTER PENNSYLVANIA



▲ Mention Item NED-842 when writing ▲

HOW TO GET THE JUMP ON COMPETITION



Technical plastics have such a broad range of industrial uses and versatility of application that they are almost certain to find a place in your post war field. So beat your competition to the gun. Read up on Synthane now.

Synthane is dense and strong yet light in weight (about half the weight of aluminum). It is moisture resistant, corrosion resistant, and chemically inert. Synthane's made in the form of sheets, tubes, molded and fabricated parts. One or more of these forms may help you to cut post war costs.

Send for complete information on Synthane today.

SYNTHANE

TECHNICAL PLASTICS

SHEETS • RODS
TUBES • FABRICATED
PARTS • MOLDED-
LAMINATED • MOLDED-
MACERATED

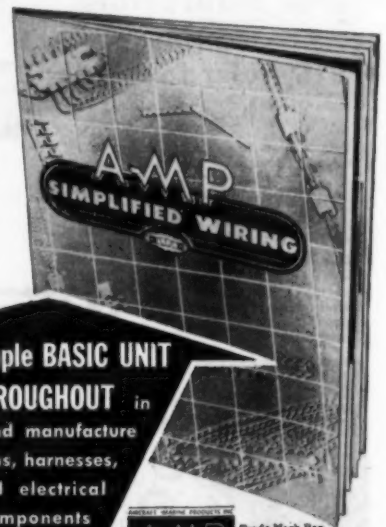
SYNTHANE CORPORATION
Northeast River Road

Please send me a copy of the complete Synthane Plastics Catalog.

*Name*_____
*Name of Company*_____
*Title*_____
*Address*_____
*City*_____ *State*_____

▲ Mention Item NED-837 when writing ▲

For the First Time



ONE Simple BASIC UNIT USED THROUGHOUT in the design and manufacture of wiring systems, harnesses, connections and electrical and electronic components . . . *eliminating all complex, cumbersome, unnecessary parts!*

A-MP Trade Mark Reg. U. S. Pat. Off.

WRITE FOR YOUR COPY

Our new publication, AMP SIMPLIFIED WIRING, explains the limitless possibilities of this new system and presents photographs and complete data on many typical installations. You will want others in your organization to have a copy. Add their names to yours in sending for AMP SIMPLIFIED WIRING (Bulletin 33).

AIRCRAFT-MARINE PRODUCTS INC.
1521-47 N. FOURTH STREET, HARRISBURG, PENNSYLVANIA
• A & M ACCESSORIES, LTD., TORONTO, ONTARIO, CANADA

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the RIGHT Oil

IDENTIFIED

for the RIGHT Job...

with MEYERCORD DECALS

Oil Company Uses Meyercord Decals for New Coded Lubrication System

Matching Decal numerals now provide identification between all lubrication points, grease guns, oil cans, storage containers. Meyercord Decals are used for their brilliant lasting visibility and resistance to oil, grease, vibration, acid, abrasion and temperature extremes. Investigate their flexible, low-cost use for your needs for trademarks, operating instructions, wiring diagrams, factory charts, color codes, etc. Any design, size or colors can be easily applied to any commercial surface. Free designing. For details, write to Dept. 13-2.

FREE! DECAL CHECK CHART Tells how to select and apply the correct Decal to 16 different surfaces. Conveniently arranged in file folder form. Write for free Check Chart.

THE MEYERCORD CO.
World's Largest Manufacturers of Decals
CHICAGO 44, U. S. A. • SALES OFFICES IN PRINCIPAL CITIES

▲ Mention Item NED-843 when writing ▲

When It Is Too Large For Tank Immersion

PREPARE FOR PAINTING WITH W. O. #1—EQUALLY EFFECTIVE ON ALL METALS

A FAR MORE RAPID TREATMENT THAN ANODIZING OR CHROMATIZING

May be sprayed—Turco W. O. #1 is non-toxic, is used cold, creates no fumes, is no hazard to personnel. As it may be sprayed, brushed or swabbed on, it is especially useful for the treatment of structural members, steel cables, assemblies or sheets too large for tank immersion or where immersion is impractical.

Cleans—removes light rust, oil, grease, shop dirt.

Passivates (phosphatizes) steel, iron, aluminum, zinc, galvanizing—deposits a flexible film, insoluble in water, of iron *phosphate* on iron and steel, aluminum *phosphate* on aluminum and alloys, zinc *phosphate* on zinc and galvanizing.

Etches (*chemically*)—provides a firm paint anchorage Close tolerances are not disturbed by this chemical etching.

Write Turco for details today, Department NED-2

TURCO
TURCO PRODUCTS, INC. • Main Office and Factory: 6135 S. Central Ave., Los Angeles 1 • Offices and Factories: 1608 Henderson St., Houston 10, Tex. • 125 W. 46th St., Chicago 9, Illinois • Offices and Warehouses in All Principal Cities
INDUSTRIAL CHEMICAL COMPOUNDS

▲ Mention Item NED-844 when writing ▲

A COMPLETE LINE

VICKERS
OIL-HYDRAULIC POWER GENERATION AND CONTROL DEVICES

Pumps—Constant Delivery, Variable Delivery, Motor Driven

Valves—Solenoid Operated, Pressure Operated, Manually Operated

Fluid-Motors—Gear Type, Piston Type

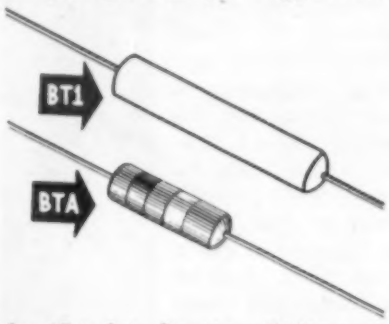
Write for Bulletins describing these products

VICKERS Incorporated
1456 Oakman Blvd. • DETROIT, MICHIGAN

▲ Mention Item NED-845 when writing ▲

SMALL INSULATED RESISTORS

Shown in comparison with size of type BT-1 insulators which are used widely in electrical equipment, this type BTA insulated 1-watt resistor is designed particularly for applications requiring American War Standards RC30 specifications. It will also serve wide variety of limited space, low power applications. Its characteristics compare favorably with those of large size unit.



Temperature rise is 56 degrees Cent. It measures .718 inch long by .25 inch in diameter. Wattage rating is 1 watt at 40 degree Cent. ambient temperature and it may be used on up to 500 volts. Minimum range is 330 ohms. Standard maximum range is 20 megohms. Higher ranges are available on special order. Made by International Resistance Co., Dept. N15, 409 N. Broad St., Philadelphia 8, Pa.

▲ Mention Item NED-846 when writing ▲

CENTRIFUGAL SEPARATOR

Continuous separation of solids from slurries is accomplished with this line of Merco centrifugals which provide for continuous feed and discharge. Since solids are concentrated in centrifugal rotor, they are washed countercurrently and carried out of machine in fresh liquor. Because of high gravity effect developed, separation is rapid and thorough. Material is totally enclosed at all times and there is minimum of atmospheric contamination.

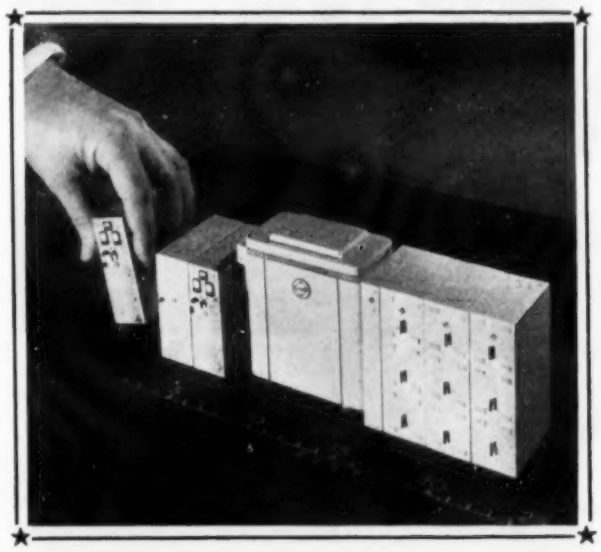
These units may be used for separating solids from slurries and pulps, where either solids or fluids may be values to be recovered, such as in crystal recovery for solid values or recovery of beet juice from pulp in beet sugar process. It is adaptable for classifying by type of solid when two solids have different settling characteristics, such as starch-gluten separation in wet starch process. Another use is in classifying solids by size such as in separation of sand and cuttings from rotary drilling mud.

Four sizes of centrifugals are available with capacities of 10, 50, 200 and 350 gallons per minute. Stainless steel rotor and acidproof bronze housing constructions are available in three smallest sizes. Standard construction in largest unit embodies carbon steel rotor and cast iron housing, though special construction can be supplied for corrosive and semi-corrosive service.

Illustrated type B-16 unit is especially suited for handling highly corrosive organic and inorganic slurries. At speed of over 3600 revolutions per minute, it can be driven by either electric motor or steam turbine. Nominal throughput is 50 gallons per minute. Made by Merco Centrifugal Co., Hobart Bldg., San Francisco 4, Calif.

▲ Mention Item NED-847 when writing ▲

NEW PLANNING IDEA



MILWAUKEE, WIS.— **Accurate scale models of Allis-Chalmers Prefabricated Unit Sub apparatus now make it possible for you to plan power distribution equipment quickly without bogging down in charts, tables, diagrams. Call your A-C office for a showing. No obligation.** A 1813

ALLIS-CHALMERS MILWAUKEE • WIS.

▲ Mention Item NED-848 when writing ▲

FOOD INDUSTRY PROFITS WITH CAMBRIDGE METAL PROCESSING BELTS

- Bakeries
- Canneries
- Candy
- Dehydrated Foods
- Fresh Produce
- Fruit Packing
- Ice Cream
- Meat Packing
- Packaged Foods
- Quick Freezing
- Sea Foods

Cambridge Belts, flexible lengthwise, but rigid crosswise, permit special treatment of products simultaneously with their movement on the belt. Their open mesh permits free circulations of water, steam, air or heat. Adaptable to all food processing. FREE TECHNICAL Book on request.

THE CAMBRIDGE WIRE CLOTH COMPANY
CAMBRIDGE 13 CAMBRIDGE, MARYLAND

▲ Mention Item NED-849 when writing ▲

PRECISION CONTROL OF TIME INTERVALS

2509 for surface mounting.

assured with Paragon PRESET TIMERS

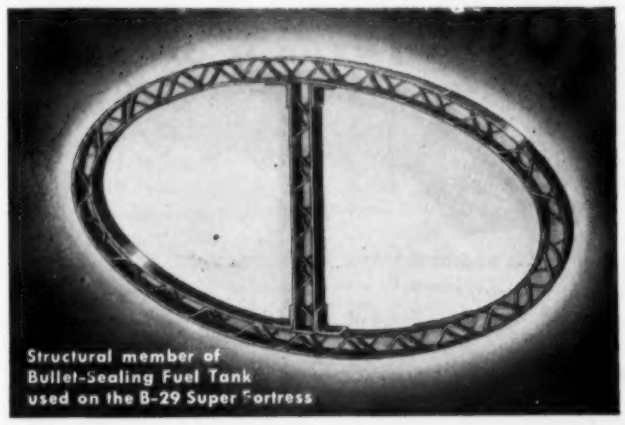
Paragon improved manually preset timers can be preset to allow a given operation to continue for almost any pre-determined time limit . . . . to close or open a circuit at the end of the preset time, etc. Synchronous motor operated. Assures absolute accuracy of the timing cycle. Not affected by vibration or changes in ambient temperature. Supplied for flush, surface or wall mounting.

Paragon Chicago
BUILDERS OF ELECTRICAL EQUIPMENT

PARAGON ELECTRIC COMPANY
712 Old Colony Building, Chicago 5, Illinois

Mr. Tops, the Paragon symbol of top quality.

▲ Mention Item NED-850 when writing ▲



Structural member of Bullet-Sealing Fuel Tank used on the B-29 Super Fortress

Is There an Idea for Your New Products in this War-Time Use of National Vulcanized Fibre?

National Vulcanized Fibre, because of its remarkable combination of properties—resilience, formability, lightness of weight and exceptional strength, was found to be exactly the right material for this structural member of the bullet-sealing tanks of the Super Fortress. The same properties that make National Vulcanized Fibre the best material for this war-time job make it equally practical for countless peacetime uses. Write us for full information.

NATIONAL VULCANIZED FIBRE CO.
Offices in Principal Cities Wilmington, Delaware

▲ Mention Item NED-851 when writing ▲

CHIKSAN FORMULA FOR A *Perfect* SWIVEL JOINT

$$BB_2 + EP = \frac{LT}{P/V}$$

BB_2 = Double rows of Ball Bearings — For easy turning with minimum friction. They also maintain perfect alignment of moving parts.

EP = Effective Pack-Off — This self-adjusting unit permits the use of the same Swivel Joint for all services. Nothing to tighten or adjust.

LT = Low Torque — No excessive friction drag because turning takes place on ball bearings which hold moving members together. Tightness of Joint does not depend upon compressing packing element by means of bolted flanges, thereby causing joint to stick.

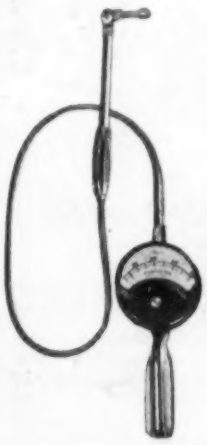
P/V = Pressure or Vacuum — Pre-determined pressure on Packing Ring prevents leaks due to pressure or vacuum. Packing automatically adjusts itself to either service.

These are the essential elements for perfect swivel action. You get ALL of them when you specify Chiksan Ball-Bearing Swivel Joints.

WRITE FOR CATALOG AND ENGINEERING DATA

CHIKSAN TOOL COMPANY
Ball Bearing SWIVEL JOINTS for ALL PURPOSES
BREA, CALIFORNIA

▲ Mention Item NED-855 when writing ▲



For easier temperature measurements—

ALNOR PYROCON

with flexible arm

★ This contact pyrometer for surface temperature measurements is available with either flexible or rigid arm, and a choice of eleven types of thermocouples. The Pyrocon with flexible arm permits easy temperature readings in many locations otherwise inaccessible. The hand-held indicator is balanced for convenient use, and is a rugged, heavy duty instrument for reliable service under industrial plant conditions. Temperatures may be measured in liquids, molten metals, oils, bulk materials, and of surfaces, whether flat or curved, stationary or moving. Several standard ranges, 0-400 deg. F. to 0-1200 deg. F. Write for descriptive bulletin listing all types.

ILLINOIS TESTING LABORATORIES, INC.
420 NORTH LA SALLE STREET
CHICAGO 10, ILLINOIS

▲ Mention Item NED-856 when writing ▲

TO GET FREE SAMPLES OF ARKWRIGHT TRACING CLOTHS...

MAIL THIS COUPON TODAY

Arkwright Finishing Co.,
Dept. A, Providence, R. I.

Please send free samples of Arkwright Tracing Cloths.

Name.....

Firm.....

Street.....

City..... *State*.....

If you'd like to see just why so many topflight draftsmen prefer Arkwright Tracing Cloths to anything else . . . take advantage of our free sample offer. Cut out and mail coupon today!

Arkwright TRACING CLOTHS
AMERICA'S STANDARD FOR OVER 20 YEARS

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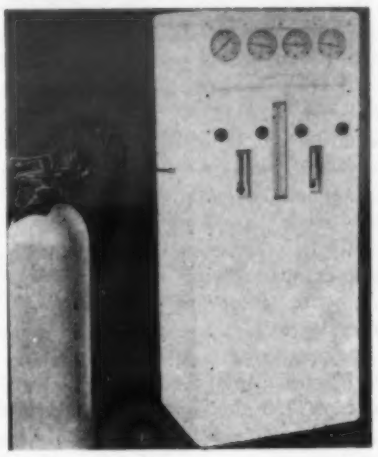
CHLORINE DIOXIDE GENERATOR



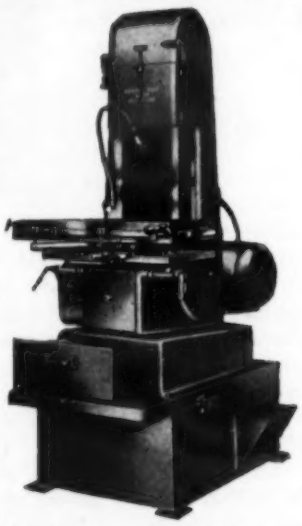
Production of dry chlorine dioxide from chlorine and dry sodium chlorite is accomplished in this improved generator. Equipment is used commercially to generate chlorine dioxide, a gas with 2½ times the oxidizing power of chlorine, for dry bleaching of starch, wheat flour, high-fat soy flour and wool grease, and for checking blue mold in citrus fruits. Gas is also used in solution in bleaching soap, paper and textiles, and in removing objectionable tastes and odors from public water supplies.

Chlorite is now contained in reaction tower within control unit, in contrast with earlier models which required separate chlorite towers. Removable front and sides make all parts easily accessible for servicing. Generator measures 5 feet high, 2 feet wide and 1½ feet deep. Made by **The Mathieson Alkali Works, Inc.**, 60 E. Forty-second St., New York 17, N. Y.

▲ Mention Item NED-858 when writing ▲

WET BELT SURFACER

Featuring use of automatic feed table, model GB-8 wet belt surfacer is production machine. Automatic feed releases operator to prepare stock for next cycle while machine is performing work. Speed, pressure, finish and size are under full control of hydraulic unit and mechanical settings. Simple jigs are used, so that setup time is held to minimum and close tolerances are assured. Integral coolant system has capacity of 35 gallons. Coolant, grindings and chips fall into large drawer for separation. Chips are trapped and drawer is easily cleaned.



Abrasive belt is 9 inches wide by 107 inches in circumference. Plastic bonded belts are available in grits from No. 24 to No. 600. Standard plain table is 12½ x 20 inches overall, with working surface of 11¼ x 17½ inches. Automatic feed table is 13 x 28 inches, with working area of 11¼ x 24½ inches.

Feed table is hydraulically controlled, with micrometer stop being provided to limit feed of work. Dial indicator shows rate of machining operation and when piece is finished. Provision is made for aligning belt and tensioning it. Three or 5 horsepower motor is used to drive machine and standard belt speed is 3550 surface feet per minute. Other speeds are available at no extra charge. Made by **Porter-Cable Machine Co.**, 1710 N. Salina St., Syracuse 8, N. Y.

▲ Mention Item NED-859 when writing ▲

Is YOUR New Product MOBILE ?

FOOD MACHINERY CORPORATION'S NEW SPEED SPRAY Is Mounted on FRENCH & HECHT WHEELS

We offer unsurpassed facilities for the soundly engineered wheels you require for permanently safe mounting of your new mobile products — your materials handling trucks and carts—and your portable equipment.

SPOKE • CAST • PRESSED WHEELS

Send Your Wheel Problems to Us

FRENCH & HECHT, INC.
SUBSIDIARY OF KELSEY-HAYES WHEEL CO.
DAVENPORT, IOWA, U. S. A.
WHEEL BUILDERS SINCE 1888

▲ Mention Item NED-860 when writing ▲

HEAVY DUTY CRANE HOOK SHEAVE BLOCKS

TRUNNION—MOUNTED SWIVEL

BRONZE BUSHED or ROLLER MOUNTED

DOWNS HEAVY DUTY BLOCKS can take it. Both open and closed types have trunnion-mounted swivel hooks . . . bored shafts with *protected* grease fittings . . . and bronze bushed sheaves. Special available features are: roller bearing sheaves, ball thrust bearing swivel hooks, becket or equalizer for dead ending rope, and cheek weights, also swivel eyes, shackles and double hooks.

Write for illustrated catalog!

DOWNS CRANE & HOIST CO.
MECHANICAL ENGINEERS
540 W. VERNON AVENUE
LOS ANGELES 37, CALIF.

Electric Cranes • Hand Cranes • Jib Cranes • Sheaves • Sheave Blocks
Plate Grips • Plate Hooks • Crane Trolley Hoists • Crane Wheels • Crane End Truck Units • Jib Crane Fittings • Automatic Mechanical Load Brake Crane Hook Blocks

▲ Mention Item NED-861 when writing ▲

So we built more SNAP-LOCK *switches*

...FOR TOUGH SERVICE

People often ask us, "Why should a machine-tool builder produce his own switches and solenoids?"

The answer is that the commercial grades, built for lighter service, got old too fast in the tough going on heavy duty machines where there just isn't any room for failure.

Other manufacturers wanted this same ability to "take it" in their electrical equipment. And now, for example, over 80% of the builders of automatic machine tools use Snap-Lock Limit Switches.

SNAP-LOCK SWITCHES

Separate enclosures for electrical and mechanical sides. Positive locking in on or off position—no stopping on center. Extra heavy construction and insulation. For any normal circuit—levers and mountings to suit.

Bulletin EM-42

SNAP-LOCK CONTROL STATION SWITCHES

Standard assemblies have 3, 2 or 1 button combinations—flush, box or pendant mounting. Have all the stamina and dependability that come with the tried-and-proved Snap-Lock principle. Ask for recommendations based on your requirements.

Bulletin EM-43

SNAP-LOCK MOTOR STARTER SWITCHES

Built for 3-pole wiring, up to 2½ HP. AC or DC. Heavy silver contacts, all mechanical parts hardened steel, extra heavy insulation. Positive locking, in open or closed position, protected against arcing. Proved in battle service by U. S. Navy.

Bulletin EM-45

NAMCO SOLENOIDS

Built for heavy duty service. "Stellite"-weld inserts stop plunger "mushrooming", and insure long wear. Exceptionally rugged construction throughout. Capacities, 4 to 30 pounds push or pull, at 1" stroke. Do all kinds of jobs—automatically.

Bulletin EM-41

The National Acme Electrical Department will gladly help you *engineer* these rugged electrical devices to suit the requirements of your particular job.

Electrical Manufacturing Division

THE NATIONAL ACME CO.
CLEVELAND, OHIO

▲ Mention Item NED-862 when writing ▲

What's Caught Under This Paper?

Thousands of grains of dust! Dusting paper to the housewife — to paper technicians a creped paper with lots of stretch and strength, yet soft as a baby's cheek, and oil treated to catch dust particles. Amazing things are being done with paper in industrial applications. As part of your post war planning, read "Industrial Paper — The New Production Answer" — Write for free copy.

CENTRAL PAPER COMPANY INC.
2436 Lakeshore Drive • Muskegon, Michigan

▲ Mention Item NED-863 when writing ▲

...ALDRICH *Inverted* VERTICAL TRIPLEX HIGH PRESSURE PUMP *for*...

- Pipe Line Service
- Hydraulic Presses
- Plastic Moulding
- Repressuring
- Die Casting

Fluid end located at top of pump frame. Totally enclosed with provision for outside packing and proper lubrication under all operating conditions. Crankshaft extends through crankcase for direct coupling at floor level to gear motor or speed reducer. For pressures to 8350 p. s. i. and capacities to 200 g. p. m. Ask for Data Sheet 66.

THE ALDRICH PUMP COMPANY
4 GORDON STREET • ALLENTOWN • PENNA.

▲ Mention Item NED-864 when writing ▲

Gets a BIG HAND from Workers!

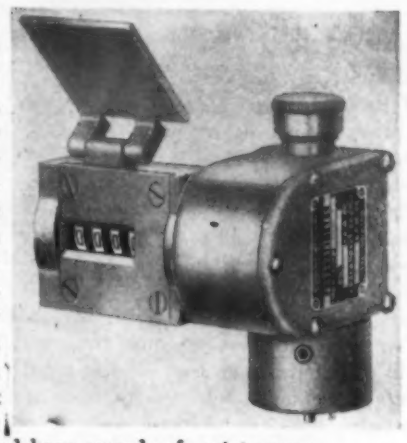
EDMONT Coated Fabric Gloves are the factory favorite because:

- ★ LIQUID-PROOF. Full protection against oils, greases, chemicals, caustics, etc.
- ★ WON'T SNAG OR TEAR. Tough American-made rubber coating. Seams sealed against wear.
- ★ QUICKLY ON AND OFF. No bind, flexible, efficient and safe for every use.
- ★ WEARS FAR LONGER. Specially compounded rubber bonded to sturdy fabric resists severe abrasion. Work-tested for extra service.
- ★ KNIT WRIST AND GAUNTLET STYLES. Men's and women's sizes. Available through leading Mill Supply, Rubber Goods and Safety Equipment Distributors.

Fabric-Lined Edmont 503 Orange Street Coshocton, Ohio RUBBER GLOVES

▲ Mention Item NED-865 when writing ▲

RUNNING-TIME METERS



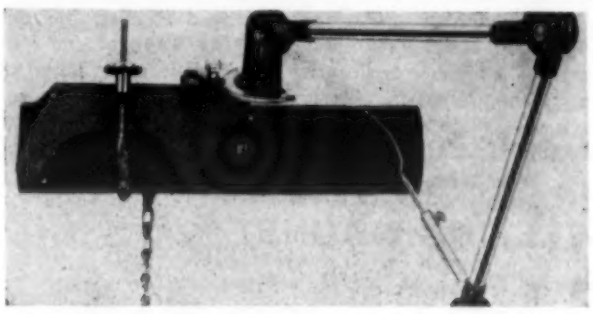
Designed for application on individual types of engines, Productimeter hour meters record actual running time in hours, obtained through conversion of average crankspeed into hours of running time. They are specifically designed for stationary engines and enable operators to maintain equipment at peak performance, plan work, estimate costs and keep records of maintenance.

Several types are available for distributor drive, magneto equipped engines, oil pump gear drive, cam shaft drive and oil injector pump drive. Latter type is shown and is intended for use on Cummins diesel engines. Made by Durant Mfg. Co., 1922 N. Buffum St., Milwaukee 1, Wis.

▲ Mention Item NED-866 when writing ▲

PIPE LAYOUT TOOL

Pipe, structural shapes and flat sheets are quickly and accurately scribed for cutting on any angle within .5 degree through use of this Trumark Protractor. Available in two



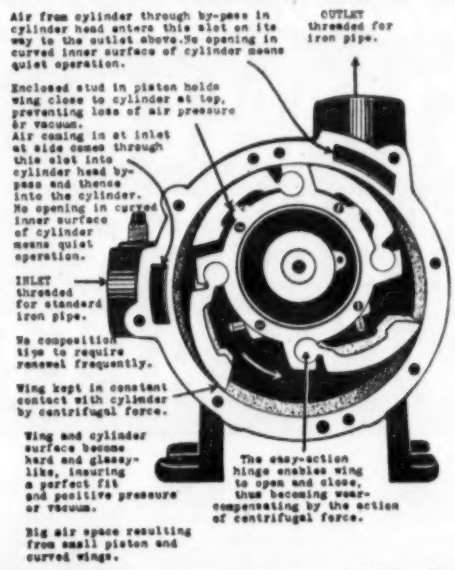
stock models, this device is made in three sizes. Illustrated model scribes circumference of pipe from 3 to 18 inches in diameter. In a few seconds, unit may be placed on pipe parallel to centerline, leveled by means of built-in spirit level, adjusted to desired angle by means of 180-degree scale and scribing completed.

It is made of precision machined cast bronze alloy and steel tubing. Joints are of large diameter and have fiber bearings which hold correct tension to maintain positive alignment. Marking arm is rigid throughout its travel. Larger size handles pipe ranging from 12 to 26 inches in diameter. Junior die cast size marks pipe or rod from ½ to 3 inches in diameter.

Protractor may be set up on flat surfaces, channel iron, T or I-structural shapes, or held square to any edge or corner. Plumb bob indicator and spirit level show any degree of angle from horizontal plane. Eliminating use of wrap-arounds and complicated engineering calculations, this device is useful in public utility, municipal and industrial field work. It is equally adaptable for use in welding, machine and sheet metal shops, glass plants and shipyards. Three standard models are priced at $18, $44 and $54. Special sizes can be supplied. Made by Tru-Line Corp., 759 Venice Blvd., Los Angeles 15, Calif.

▲ Mention Item NED-867 when writing ▲

LEIMAN BROS. **VACUUM** PUMPS
Pressure Blowers, Gas Pumps, Air Motors



THEY TAKE UP THEIR OWN WEAR
Small Piston — Large Air Space
Steady, Positive Suction or Pressure

Get free Bulletin LEIMAN BROS. 167 Christie St. Newark 5, N. J.

▲ Mention Item NED-868 when writing ▲

STAMPS, CRIMPS, MARKS, PUNCHES, RIVETS, FORMS — HANDLES MANY SPECIAL OPERATIONS

benchmaster—known for quality bench machine tools—aids high speed production with a versatile inclinable 4-ton capacity bench punch press.

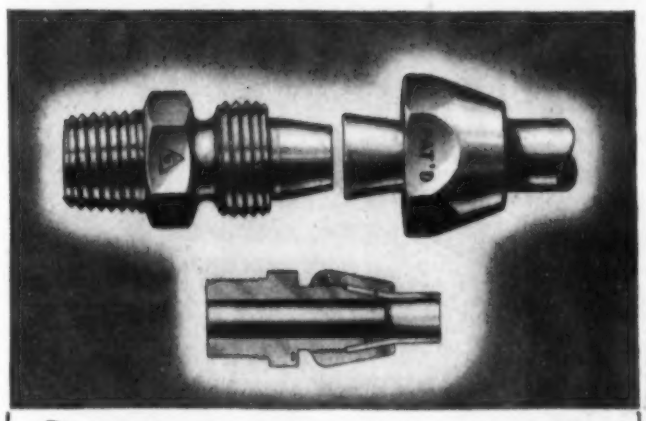
For Light Sheet Metal, Plastics, Etc.

285 strokes per minute • Die Space: 4¾" when Ram "Up" • Ram Adjustment: 1 inch • Bolster Plate: 6"x8" • Height: 25" • Weight: 185 lbs. • Motor: ½ H.P. • $127.50 F. O. B. Factory (less motor)

benchmaster tools manufacturing company
2952 w. pico, los angeles 6, cal.

▲ Mention Item NED-869 when writing ▲

8090 lbs. pressure... no leaks*



*From Underwriter's Laboratories' Report No. 42C649 ... When ½" steel Superseal fittings, made up with steel tubing, were subjected to pressure tests, no leakage occurred. At 8090 lbs. pressure the steel tubing split at a point away from the fittings.

SUPERSEAL Flared Tube Fittings

provide leakproof joints even under maximum vibration and pressure

Check these other features

- ✓ **Long 10° Tapered Cone** provides greater seating area for tubing flare.
- ✓ **No Shearing Action** to injure the tubing at the point of flare when the nut is tightened – instead the tubing is actually strengthened.
- ✓ **All Tubing Easily Flared to Superseal's 10° angle...** production flaring of welded steel tubing in one operation.
- ✓ **Inside Diameter of Tubing** uniformly maintained . . . no obstructions at the joint.
- ✓ **Tubing Bends** can be made close to the fitting.
- ✓ **Materials** . . . Stocked in steel. Malleable iron, brass, aluminum or alloys on special order.
- ✓ **Parkerized and Wax Coated** . . . corrosion-resistant.
- ✓ **Underwriters Approved** for all hazardous gases and liquids.

Write for Catalog 3-R

GRINNELL COMPANY
Superseal Division, Providence 1, R. I.

GRINNELL
WHENEVER *piping* IS INVOLVED

▲ Mention Item NED-870 when writing ▲

from the LARGEST To the SMALLEST

USERS of Bolts & Nuts, does the quality of Clarks' product appeal.

SEND US YOUR SPECIFICATIONS

CLARK BROS BOLT CO. the Pioneer Modern Bolt Makers MILLDALE, CONN

▲ Mention Item NED-871 when writing ▲

18 WAYS TO SAVE TIME & MONEY! with the Mead Industrial Burring Machine

For Wood—Metal—Plastic

New circular explains, illustrates 18 ways in which the Mead Industrial Burring Machine saves time and money—also contains special Grit Guide. Every industrial plant needs this "Jack-Of-All-Trades" machine. Your burring can be done in "free time"—install these machines by every machine tool which leaves burrs. Grinds, finishes both outside and inside cut-out openings. Immediate delivery in most cases. Write for the informative Money-Saving circular now.

MEAD SPECIALTIES COMPANY

4114 North Knox Ave. Dept. N-245 CHICAGO 41, ILL.

▲ Mention Item NED-872 when writing ▲

All Types of Industrial ELECTRONIC TUBES

RECTIFIER
POWER
CONTROL
PHOTO-ELECTRIC
TRANSMITTING
RECEIVING

STOCKS ON HAND FOR Immediate Delivery

Helpful BUYING GUIDE Available on Request Write for it!

Take advantage of this *complete, centralized service* on all types of industrial electronic tubes. Many are "on-hand" for *rush delivery!* RCA, G.E., Raytheon, Amperex, Eimac, Taylor, and other well known makes.

Save time and work . . . Call Allied First! Write, Wire or Phone Haymarket 6800

Everything in Radio and Electronics

ALLIED RADIO CORP.

833 W. Jackson Blvd., Dept. 48-B-5, Chicago 7

▲ Mention Item NED-873 when writing ▲

NONFOGGING GOGGLES

Normal breathing has been harnessed to effect forced ventilation of these goggles which will not cloud or fog regardless of how much wearer perspires. Fitted with bulbous nosepiece, these goggles utilize lung action of user to cause fresh air to sweep across inside surface of lens about once each second. This action removes moisture from within goggle so that it will not condense on lens. Unobstructed vision is thus assured and protection is afforded to eyes against dust and flying particles.

Flow channels handle air efficiently and incoming air is guided over lens. Inhalation draws air through intake ports, sweeps it across inside of lens and causes it to pass through inlet valve into nose. Exhalation closes inlet valve and opens outlet valve in base of protruding nosepiece. Developed by Polaroid Corp., Cambridge 39, Mass. Distributed exclusively by Welsh Mfg. Co., Providence, R. I.

▲ Mention Item NED-874 when writing ▲

SMALL CARBIDE TOOLS

Designed particularly for steel roughing work, as well as use on older machines, this line of smaller size Carboloy cemented carbide tools includes sizes ranging from ⅜ to ¾-inch in size. Grade 78C carbide is used and is adaptable for roughing cuts and interrupted cuts on steel. Right and left hand straight turning and square nose tools are available in ⅜, ½, ⅝ and ¾-inch sizes. Right and left hand 15-degree angle turning tools are made in ½, ⅝ and ¾-inch sizes. Made by Carboloy Co., 11163 E. Eight Mile Rd., Detroit 32, Mich.

▲ Mention Item NED-875 when writing ▲

SWEEPING MAGNET

Intended for use inside or outside of factory areas, parking lots and similar places where scrap metal may be costly hazard for rubber tired vehicles, this sweeping magnet consists of drum with 18-inch working face. It is permanently magnetized to eliminate need for cables and is mounted on chassis in manner similar to that of lawnmower. It requires minimum of effort to operate.

Accumulated scrap metal is picked up by magnetic drum and deposited in tray back of drum. Tray can be emptied whenever required. Handle of unit permits either pushing or pulling of vehicle, whichever is most convenient for type of surface being cleaned of metallic refuse. Its use is said to frequently pay for cost and operation of unit through scrap metal recovered. Made by Stearns Magnetic Mfg. Co., 653 S. Twenty-eighth St., Milwaukee 4, Wis.

▲ Mention Item NED-876 when writing ▲

How to make your Motor Driven Unit SMALLER LIGHTER and CHEAPER

Chances are that the new motor-driven product you're planning can be smaller, lighter, better contoured—and cheaper—if you use active motor parts rather than a complete motor. So that you can decide which of hundreds of different types and ratings of motor parts can best solve *your* problem, write today for your free copy of R & M's Matched Motor Parts catalog, Form 1871.

ROBBINS & MYERS • INC.

Springfield, Ohio (In Canada: Robbins & Myers Co. of Canada, Ltd., Brantford, Ont.)

▲ Mention Item NED-877 when writing ▲

We Cannot All Be Heroes and Win Fame...

but it takes a steady worker like RUBY, who dreams of gallant ladies, as she graduates those fine lines on a waxed tube, so it will be accurate when used to test manufacturing processes of war materials.

And in your post-war plans, just remember, it will take the same steady skill to produce GOOD Thermometers that you will be needing in your plant.

And Palmer Thermometers give you:

1 . . Precision and Guaranteed Accuracy
2 . . Sturdiness and long life
3 . . A bright RED column . . . so easy to see with "Red-Reading-Mercury".

Clip this ad as a reminder. *(Catalog on request.)*

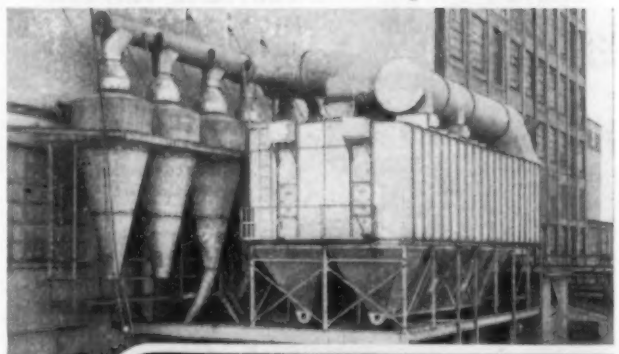
THE PALMER CO. Mfrs.

Industrial, Laboratory, Dial & Recording Thermometers

2523 Norwood Ave., Cincinnati, Norwood 12, O. — *Canadian Plant:* King & George Sts., Toronto

▲ Mention Item NED-878 when writing ▲

DRACCO offers expert advice



on DUST CONTROL

There are many factors that enter into the PROPER designing of Dust Control Systems. There are many problems that must be considered and properly appraised in order to design a system that will give maximum efficiency. DRACCO Engineers have over 30 years experience and are exceptionally well qualified to advise you. They have helped many, why not consult them?

Write for Bulletin No. 302

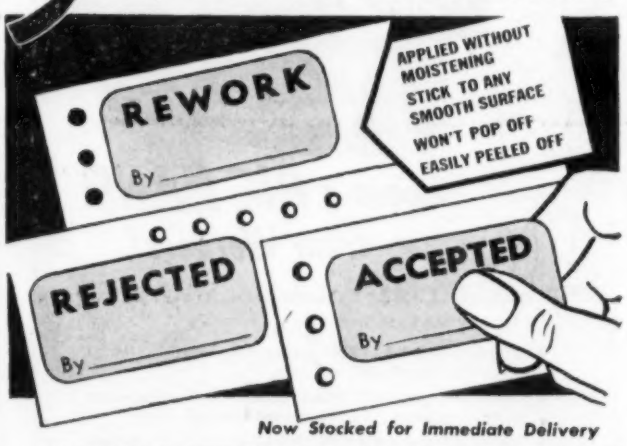
DRACCO CORPORATION

4053 East 116th St., Cleveland 5, Ohio New York Office: 130 West 42nd St.

PNEUMATIC CONVEYORS • DUST COLLECTORS

▲ Mention Item NED-879 when writing ▲

3 REMOVABLE INSPECTION STICKERS They Stick Without Moistening



Now Stocked for Immediate Delivery

America's major war plants have found Kum-Kleen Production Stickers far faster, safer, and more efficient than chalk marks, string tags, and ordinary labels. These magic stickers are quickly applied *without moistening.* Stick to any smooth surface Never curl or pop off, yet easily peel off in one piece when their job is done.

AVERY Kum-Kleen PRODUCTION STICKERS

AVERY ADHESIVES, 451 E. 3rd St. Los Angeles 13, California

Kum-Kleen stickers (1¼ x ⅝) come in handy pocket size dispenser box (500 to a box)—you simply pull tape, and sticker is ejected from box ready to apply . . The above stickers are printed in a different color for quick identification and available at the following low price per M (plus postage):

1M	$4.80	25M	$1.86	250M	$1.14
5M	3.52	50M	1.56	500M	1.02
10M	2.50	100M	1.36	1MM	.87

The 3 types of stickers can be grouped for quantity price. Order in multiples of 1000 each copy. Send in your order today. Labels shipped by return mail. Write for booklet describing 41 other proved industrial uses.

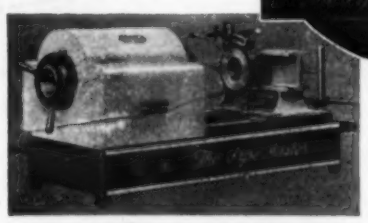
New York, Boston, Detroit, Pittsburgh, Chicago, San Francisco, Atlanta, Kansas City, Mo. In Canada, Enterprise Sales, Toronto.

▲ Mention Item NED-880 when writing ▲

▲ Mention Item NED-881 when writing ▲

Speed Up Threading with an Oster "PIPE MASTER"

This complete, portable threading machine threads pipe and bolts from 4 to 7 times faster than hand tools and with no effort on part of operator. Range of machine for pipe is ¼" to 2"; extra range ⅛" pipe; range with drive shaft is 2½" to 6" pipe; Bolt range: ⅝" to 1¼" N. C. and ⅝" to 1½" N. F.



The Oster No. 502 "PIPE MASTER" is equipped with either Quick-Opening, Adjustable Die-Heads and Dies or with Solid Die Adaptor, as desired. This machine threads nipples as short as 3½" in the 2" size on both ends without using a nipple chuck; pipe and studs as short as 2½" can be held and threaded on one end. (Other sizes in proportion.)

"PIPE MASTER" is regularly furnished for bench use but can be supplied with pipe leg stand or with all-steel wheel stand at extra cost.

Ask for Catalog No. 24-A.

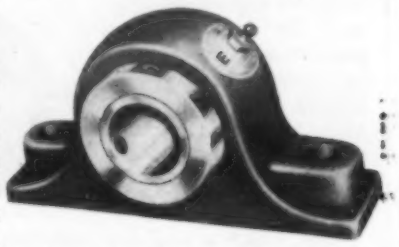
OSTER THE OSTER MFG. COMPANY
2066 E. 61st St., Cleveland, Ohio, U. S. A.
THREADING MACHINES • TURRET LATHES

▲ Mention Item NED-882 when writing ▲

▲ Mention Item NED-883 when writing ▲

PILLOW BLOCK

Available in both pillow block and flanged units, this Dodge-Timken type E bearing is adaptable for normal service conditions and is low in price. It will give 30,000 or more hours of service when properly applied.



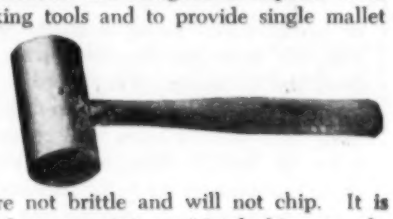
On each end of extended inner race is steel collar having two headless set screws spaced 120 degrees apart and extending through clearance holes in inner race to shaft. These four set screws provide positive lock to prevent rotation of inner race on shaft. Housings are compact and machined to close tolerances.

Simple, effective labyrinth seals prevent loss of lubricant and protect bearings against damage from dust, dirt or moisture. Seals are effective whether bearing is on or off of shaft. Bearings are assembled, lubricated and adjusted at factory. While not fully self-aligning, they have enough self-alignment inherent in design and arrangement of Timken rollers to compensate for any normal misalignment. Made by **Dodge Mfg. Corp.**, Mishawaka, Ind.

▲ Mention Item NED-884 when writing ▲

ALUMINUM MALLETS

Available with aluminum heads and faces, Empire mallets and Basa replaceable face hammers are designed to replace other types of soft faced striking tools and to provide single mallet or hammer for all types of work requiring soft faced tool. In addition to being sparkproof and easily machined for refacing, heads and faces are not brittle and will not chip. It is claimed to be tough and wear resisting. Metal chips are absorbed.



Worn heads or faces are easily cut, turned or ground for added life. Split jaw design of hammers facilitates replacement of faces. Tool is well balanced to minimize worker fatigue. Made by **Greene, Tweed & Co.**, Palmetto Bldg., Bronx Blvd. at 238th St., New York 66, N. Y.

▲ Mention Item NED-885 when writing ▲

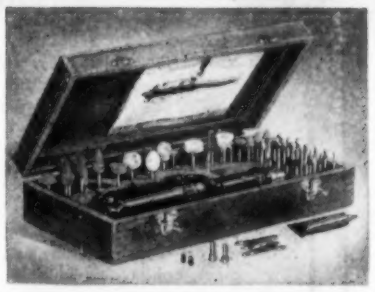
SET SCREW WRENCH HOLDER

Users of hollow set screws will find this Brooks wrench holder convenient tool. Each holder in set accommodates four progressive sizes of wrench for Allen and other makes of set screws. Four holders will service all set screws from No. 4 to 1½ inches. Wrenches can be adjusted to use either long or short end. Complete set of wrenches is always available for use. Handle is shaped and knurled for ease of operation and selection of proper size wrench is simple matter. Made by **The Micro Tool Co.**, 18 Sigourney St., Hartford 5, Conn.

▲ Mention Item NED-886 when writing ▲

MORE POWER LESS WEIGHT

1/6 H. P. AND 35,000 R. P. M. *UNDER LOAD*— WEIGHS 35 OZ.



Use alone or mount in stand, vise, or lathe.

Twice the power and twice the speed of any other electric handtool! Use for faster, smoother work on steel, nonferrous metals, plastics, and most other materials. Speeds up to 35,000 r.p.m. under load reduce frictional wear on mounted wheels by as much as 200%.

Fully cased in durable, lightweight plastic and fully guaranteed shockproof without ground wire on AC or DC. For close jobs attach COOLFLEX Flexible Shaft to extend full power and speed to 9 oz. cool-running hand piece.

GRINDS MILLS DEBURRS ENGRAVES POLISHES FINISHES

FACTS AND FIGURES

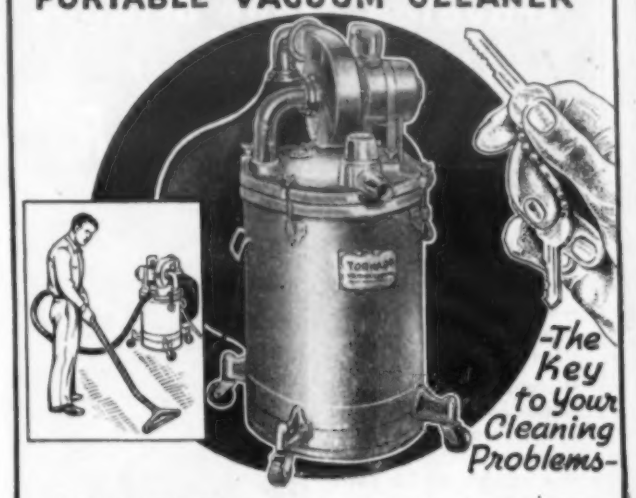
Send for 20 page "Facts and Figures" Booklet.

Precise Products Co.
1346 Clark Street
Racine, Wis.

THE PRECISE 35

▲ Mention Item NED-887 when writing ▲

TORNADO
PORTABLE VACUUM CLEANER



DON'T let workmen stumble over improperly cleaned floors—or dirt, litter, scrap and dust hold up production—give your plant a thorough daily cleaning with the powerful, portable, large-capacity TORNADO Vacuum Cleaner. 1 h.p. G. E. motor; 175 c.f.m., 49" waterlift. Protects machinery and motors. 3c an hour to operate. Plugs in anywhere. Investigate!

Write for details and FREE TRIAL Offer

BREUER ELECTRIC MFG. CO.
5106 N. RAVENSWOOD AVE., CHICAGO 40

TAKE THE DUST OUT OF INDUSTRY
with BREUER'S BALL BEARING
TORNADO
PORTABLE INDUSTRIAL VACUUM CLEANER

▲ Mention Item NED-888 when writing ▲

Sudden Death TO OIL FIRES ... WaterFOG

For fires in flammable liquids and around oil-filled electrical equipment . . . Rockwood's N-22 Nozzle converts water into WaterFOG, discharging a large pattern of fog with considerable forward projection. This nozzle may be attached to ordinary hose lines or used as a tip on play-pipes.

Rockwood's N-22 nozzle is effective at pressures of 50 psi and up. It comes in 3 sizes to fit 1", 1½" and 2½" hose lines or play-pipes. It is of rugged polished brass construction.

Here's the N-22 projecting WaterFOG right into the combustion zone of a running oil fire. Notice how close the fireman can get to it in perfect safety.

WaterFOG's tremendous cooling power and smothering action does its job quickly. Since WaterFOG has a very low degree of conductivity, it is safe for fighting fires in electrical equipment.

FREE Bulletin 123, gives complete information on Rockwood WaterFOG equipment.

ROCKWOOD SPRINKLER CO., 44 Harlow St., Worcester 5, Mass.

Specialists in Fire Protection Engineering, Equipment and Installation since 1907

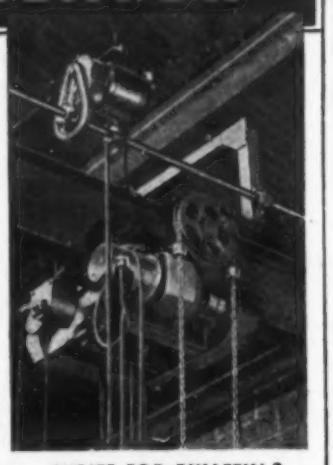
ROCKWOOD WaterFOG

Water Engineered by Rockwood Cools. Confines. Smothers Oil Fires

▲ Mention Item NED-889 when writing ▲

MOTOR TRAVEL for Hand Traveled Crane Bridges

THE *Northern* "TRAVELATOR"



Less than half a day required for application—no dismantling of crane—any good mechanic can apply the Northern "Travelator."

It provides pendant push button controlled electric power travel for hand traveled bridges within the range of 10 tons capacity.

The "Travelator" is an inexpensive, thoroughly effective durable device.

WRITE FOR BULLETIN 8

Northern ENGINEERING WORKS
2615 Atwater Street, Detroit, Michigan
Offices in Principal Cities
Northern Crane & Hoist Works Limited, Windsor, Canada

▲ Mention Item NED-891 when writing ▲

ANOTHER SPECIAL BY PROGRESSIVE

QUALITY PROMCO BRAND

71 other "specials" are illustrated in Catalog 18, which includes tables of weights per 1M standard pieces, dec. equivs. of fractions, etc. Write for it.

Special heads, threads, and finishes — on fastenings of any metal or alloy adapted to cold-upset — are Progressive's specialty. Weekly output: 25,000,000.

The PROGRESSIVE MFG. CO.
46 NORWOOD ST., TORRINGTON, CONN.

★ BUY MORE WAR BONDS ★

▲ Mention Item NED-892 when writing ▲

END CUT-OFF BURNING AND BLUING

Additional costs are incurred when steels, for example, get hot and lose temper during cutting operation. That's one reason Radiac Abrasive Cut-Off Machines and Discs help lower costs. They cut cool, and *never* cause loss of temper.

Radiac Cut-Off Machines are fast. They whisk off a round of one inch cold-rolled steel in 2½ seconds, so clean and true that no finishing is required.

SEND FOR FREE FOLDER! Radiac Abrasive Cut-Off Machines and Discs may be able to boost *your* production. Send for the free, 4-page illustrated Radiac folder, HOW TO CUT METAL LIKE CHEESE. Mail this coupon today.

*T. M. Reg. U. S. Pat. Off.
Copyright 1944, A. P. de Sanno & Son, Inc.

RADIAC ABRASIVE CUT-OFF MACHINES

A. P. DE SANNO & SON, INC.
Machine Sales Div., Dept. 50
106 S. 16th Street, Philadelphia 2, Pa.

• Please send me the Free Radiac Folder, "How to Cut Metal Like Cheese":

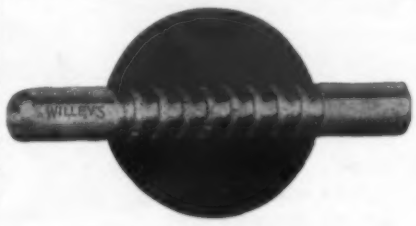
Name_____
Title_____
Company_____
Address_____

THERE IS A RADIAC REPRESENTATIVE IN YOUR DISTRICT

▲ Mention Item NED-893 when writing ▲

CARBIDE BROACHES

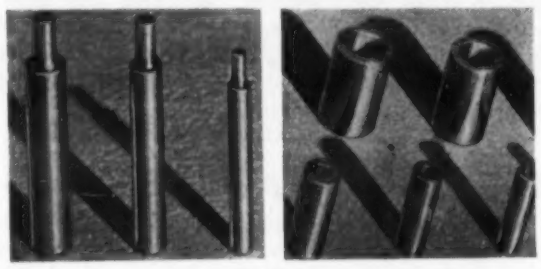
Available in diameters ranging from .250 to 1 inch, this line of Willey's Metal broaches includes moderate lengths. Made of solid tungsten carbide, these broaches offer advantages of long life and high production common to carbide cutting tools. Made by **Willey's Carbide Tool Co.**, 1346 W. Vernor Highway, Detroit 1, Mich.



▲ Mention Item NED-894 when writing ▲

DIE PUNCHES & GUIDES

Featuring ready-to-use press-fit bushings, piercing die punches and press-fit stripper guide bushings, this line of precision accessories is constructed of carbon steel in wide range

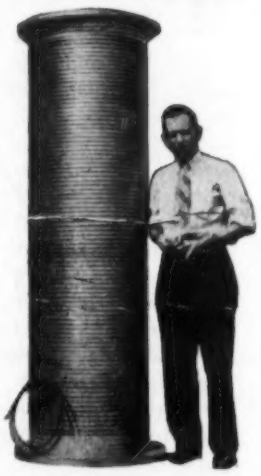


of usable sizes. Being available from stock, they save considerable time for diemaker over usual method of making them up to needs. Piercing die punches are available in straight quill types and in step-down type. Die bushings are made in type 7 for holes sizes below ⅛ inch and type 107 for holes of ⅛-inch diameter and larger. Type 207 stripper guide bushings are made for punches up to ¼ inch in diameter. Guide bushings and piercing die bushings have same body diameters, making possible combined plate boring or drilling operations. Accurate die construction is thus assured, with die and punch aligned. Accessories are also available in tolerance matched sets. Made by **Tool Craft Co.**, Dept. N, 1835 Westchester Ave., New York 60, N. Y.

▲ Mention Item NED-895 when writing ▲

LARGE FLEXIBLE METAL HOSE

Claimed to be largest of its kind, 24-inch inside diameter flexible metal hose is asbestos packed. Made of galvanized steel, this hose weighs approximately 70 pounds per foot. It is designed for use on marine and stationary diesel engines as flexible exhaust pipes. Because of its interlocked construction, it requires no special tools or application of heat to bend. This hose is also adaptable for many other industrial applications, such as for flexible connections to storage tanks in refining industry. Made by **Pennsylvania Flexible Metallic Tubing Co.**, 7203 Powers Lane, Philadelphia 42, Pa.



▲ Mention Item NED-896 when writing ▲

SPERRY HYDRAULIC CONTROLS *for* INDUSTRIAL DESIGN

Sperry Hydraulic Controls have been used in thousands of industrial applications. These easily installed, simply operated, accurate controls have eased the problems of both operators and designers.

Whether you operate or design machine tools, engines, continuous vulcanizing machines, or presses—Sperry's versatile controls stand ready to aid you. Skilled engineers and technical data await your inquiry.

EASY INSTALLATION
ACCURATE
DEPENDABLE

SPERRY

SPERRY PRODUCTS, INC.
HOBOKEN, N. J. CHICAGO, ILL.

send for bulletin 78

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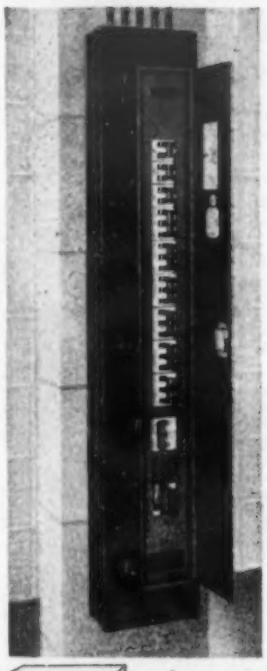
where Space is Limited



SQUARE D Column-type PANELBOARDS

Mounting space for electric lighting and power distribution panelboards in modern industrial plants is often limited to H-beams, supporting pillars or narrow wall separations between windows. These are ideal applications for Square D streamlined column-type panelboards.

These panelboards are narrow—as little as 7¼" width in the Multi-breaker (Type NMM) lighting panelboards. They will fit into spaces which cannot accommodate standard type panels. Available with circuit breakers, Multi-breaker branches, or with fusible circuits—plug or cartridge. All of them carry the Underwriters' approval. Write for Bulletins.

at left: **Multi-breaker Distribution Panel** Type MH—230 Volts A. C. (or less), 1, 2 and 3 pole branches, 15-100 amp.

SQUARE D COMPANY
DETROIT • MILWAUKEE • LOS ANGELES

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P & N DIRECT LINE *Swaged Hooks* OFFER NEW SAFETY FEATURES!

Load is carried on direct line from cable, prevents slipping

Now for the first time Poulsen & Nardon offer a complete line of hooks that can be swaged to cables from 3/16" to 1" in diameter. This permits faster, safer fastening. No more costly splicing with jagged, dangerous ends. P & N Direct Line Swaged Hooks are smooth, streamlined and foul-free!

For complete information, call your P & N Distributor listed below or write for new folder.

P&N

POULSEN & NARDON, INC.
Terminal Box 2398
Los Angeles 54, California

Hawthorne Aero Supply
Orangeburg, South Carolina

Lee Bridges Industries, Ltd.
Aircraft Section, Priory Works
Arterial Road, Southend-on-Sea, England

Electrical Distributors, Ltd.
Honolulu 10, Hawaii

Palmer Aircraft Products Co.
1411 4th Avenue
Seattle, Washington

▲ Mention Item NED-899 when writing ▲

GOT YOUR "GRINDING FACTS"?

It's full of information on new wheel markings—and on the proper selection, identification, specification of grinding wheels . . . their use and care. Write for your free copy. The Carborundum Company, Niagara Falls, N.Y.

THERE IS A PRODUCT BY
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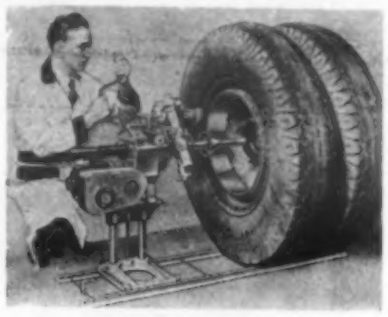
Sales Offices and Warehouses in New York, Chicago, Philadelphia, Detroit, Cleveland, St. Louis, Boston, Pittsburgh, San Francisco, Buffalo, Cincinnati, Atlanta, Grand Rapids
("CARBORUNDUM" is a registered trade mark of and indicates manufacture by The Carborundum Company)

▲ Mention Item NED-900 when writing ▲

BRAKE DRUM LATHE



Of recently patented design, this combination stationary and portable brake drum lathe is intended to machine heavy brake drums without requiring the lifting of either wheels or lathe from floor. It will accurately handle and turn any drum ranging from motorcycle size to the largest truck or bus size, with tires either on or off of wheels.

Claimed to afford maximum precision in performing this type of work, machine is now available in quantities providing WPB approval is obtained. Made by **Barrett Equipment Co.**, 2101 Cass Ave., St. Louis 6, Mo.

▲ Mention Item NED-903 when writing ▲

SMALL FUSE PLUG

Adaptable to universal motors and other single phase equipment, this two-wire, three-pole Ever-Lok midget plug will accommodate either midget fuses or Busman Midget Fusetrons. It provides circuit protection for connecting wires, motor winding protection, and disconnect and automatic locking with all safety and grounding features of standard plugs. It is available also in three-wire, four-pole type for three phase machines. Surface and flush mounting receptacles and cord connectors are available. Made by **Russell & Stoll Co.**, Dept. T, Park Place, New York 7, N. Y.

▲ Mention Item NED-904 when writing ▲

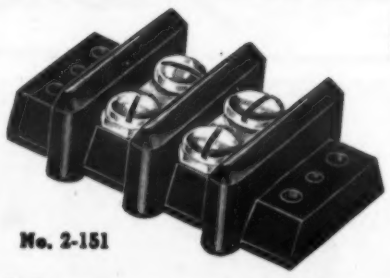
PNEUMATIC GAGE

Applied to dimensional inspection of inside diameter, outside diameter, thickness, contour, center distance and combination of several dimensions to tolerances of .0001 inch or less, this pneumatic comparator gage is especially adaptable for production work. Gaging at rates of 600 to 1000 pieces per hour is possible through use of high speed indicator which uses wide bourdon tube to develop high pointer torque.

Between indicator and gaging unit is flexible diaphragm seal. All cavities above diaphragm, including bourdon tube, are liquid filled. Air pressures corresponding to sizes of work pieces being gaged are transmitted through this diaphragm and indicated on dial. Construction is suitable for gaging pressures as high as 35 or 40 pounds per square inch. Design also provides pneumatically cushioned return action. Made by **Moore Products Co.**, H & Lycoming Sts., Philadelphia 24, Pa.

▲ Mention Item NED-905 when writing ▲

JONES BARRIER STRIPS



Solve Most Terminal Problems

No. 2-151

• A compact sturdy terminal strip with Bakelite Barriers that provide maximum metal to metal spacing. Prevent direct shorts from frayed wires at terminals.

6 SIZES—Cover every requirement. From 3/4" wide and 13/32" high with 5-40 screws to 2-1/2" wide and 1-1/8" high with 1/4"-28 screws. Jones Barrier Strips will simplify as well as improve the electrical connections of your products.

Three lines of Jones Multi-Circuit Plugs and Sockets fulfill every connection requirement. Hundreds of standard terminals.

Write today for catalog listing complete line of Jones Electrical Connecting Devices.

HOWARD B. JONES CO.
2460 George Street, Chicago 18, Ill.

▲ Mention Item NED-901 when writing ▲

Oxweld

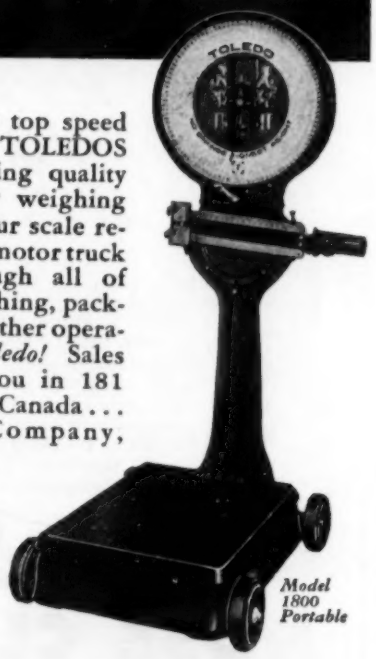
PORTABLE FLAME-CUTTING MACHINES FILL A VARIETY OF SHOP REQUIREMENTS

This Oxweld CM-16 is designed for oxy-acetylene flame-cutting of steel plate up to 4 inches thick. It travels directly on the work and cuts circles automatically—hand-guided, it cuts irregular shapes. Operated on track this machine cuts straight lines. Adaptors are available for straight-line cutting on thick steel or for beveling. The CM-16 weighs only 45 pounds and is low in price. Write for catalog, Form 4487.

THE LINDE AIR PRODUCTS COMPANY
Unit of Union Carbide and Carbon Corporation
30 East 42nd Street UCC New York 17, N. Y.
In Canada: Dominion Oxygen Company, Limited, Toronto

▲ Mention Item NED-902 when writing ▲

Speedy, Accurate
PORTABLE SCALES



Gear your plant to top speed and efficiency with TOLEDOS accurately controlling quality and costs at every weighing point! Whatever your scale requirements...from motor truck scales down through all of your receiving, batching, packaging, shipping or other operations . . . *look to Toledo!* Sales and service near you in 181 cities in U. S. and Canada . . . Toledo Scale Company, Toledo, Ohio.

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Model 1800 Portable

★ TOLEDO SCALES ★

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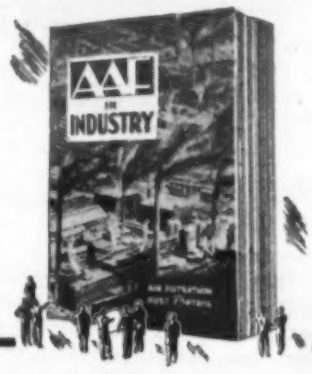
Whatever your Dust Problem—
ASK FOR HELP FROM AAF



Whether you have a problem involving the elimination of atmospheric dust or the control of process dust—AAF engineers are ready now to suggest a dust-control system to meet your specific requirements.

May we send you a free copy of our illustrated booklet "AAF In Industry"? This book describes the complete line of AAF equipment and its many applications. There's no obligation, of course.

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AMERICAN AIR FILTER COMPANY, INC.
INCORPORATED
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IN CANADA: DARLING BROS., LTD., MONTREAL, P. Q.

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DIETZGEN *Ageproof* VELLUM

NOW . . . the perfect vellum that cannot turn yellow, become brittle, lose transparency with use

Tough . . . Stable . . . Repeated erasures have little effect on surface or transparency.

Quality unimpaired . . . Note sharp, clean, lines drawn over erasures.

NO OIL
NO WAX
NO GREASE

No oil, no wax, no grease . . . Can't deteriorate, bleed, fade or turn rancid.

Product of modern science . . . *progress* produced this all-purpose, all-climate vellum.

The world has long sought a *completely satisfactory vellum* . . . an economical tracing medium with the strength and drafting qualities of fine drawing paper *and* the transparency of the thinnest tissue. *Today*, through the advent of the miracle science of plastics, that perfect vellum . . . Dietzgen Ageproof Vellum . . . is here!

Dietzgen Ageproof Vellum *stays* white, *stays* strong, *stays* transparent. It *cannot* turn yellow with age or become brittle or lose its transparency or bleed oil to other drawings or pick up dust or become rancid. Repeated erasures cannot destroy its surface or cause feathering and blots or ghosts in printing.

Make your own tests of this through-and-through plasticized product. Learn how this vellum steps way out in front. Ask for sample sheets at your Dietzgen dealer or any Dietzgen office listed below. *Do this today*. The better you know Dietzgen Ageproof Vellum, the better you will like it.

EUGENE DIETZGEN CO.
Chicago • New York • San Francisco • New Orleans
Pittsburgh • Los Angeles • Philadelphia
Washington • Milwaukee
Dealers in All Principal Cities

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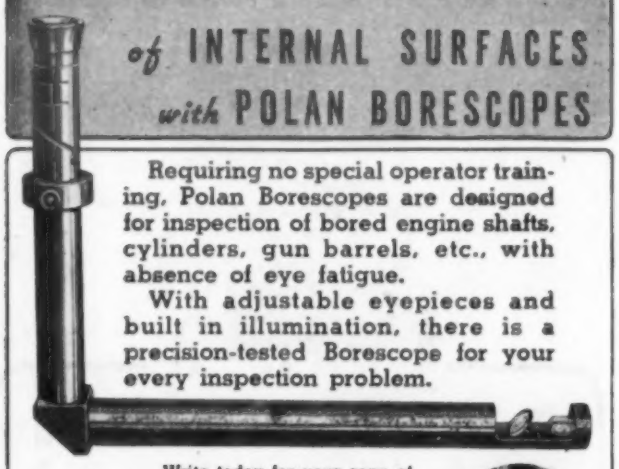
VISUAL INSPECTION of INTERNAL SURFACES with POLAN BORESCOPES



Requiring no special operator training, Polan Borescopes are designed for inspection of bored engine shafts, cylinders, gun barrels, etc., with absence of eye fatigue.

With adjustable eyepieces and built in illumination, there is a precision-tested Borescope for your every inspection problem.

Write today for your copy of Borescope Bulletin No. 510.

Unretouched photo of gun barrel section.

AWARDED TO ZENITH OPTICAL CO a unit of

Polan Industries

HUNTINGTON 19 • WEST VA.

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Explosion-proof switch

Explosion-proof pilot light and push button station

Somewhere in your plant, there are several spots where a combination of explosion-proof, vapor-proof or dust-proof switches, signal lights and push-button stations would simplify your problems.

That is where standardized, precision-made, and interchangeable Russell & Stoll Company fixtures and fittings can serve you well.

Recent developments include some of the largest explosion-proof and power panels ever assembled.

Since 1902

RUSSELL & STOLL COMPANY

EXPLOSION PROOF, WATER-TIGHT AND EVER-LOK RECEPTACLES, PLUGS, CONNECTORS, SWITCHES AND FIXTURES

125 BARCLAY STREET • NEW YORK 7, N. Y.

25

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FACTORY NOISES SHUT OUT

When you 'phone in a BURGESS ACOUSTI-BOOTH

NOW available . . . subject to prior sale

Telephoning in a Burgess Acousti-Booth is simple and convenient . . . no doors to close . . . no stuffiness or cooped-up sensation. You just step into the booth, pick up the receiver, and the incoming message can be heard CLEARLY . . . without interference from surrounding noises.

Ideal for busy shops and factories . . . saves time . . . saves costly errors through misunderstood orders. Light, airy, easy to keep clean. Send for your free illustrated Acousti-Booth booklet today.

Mail Coupon for Free Booklet Today!

Burgess-Manning Company
2817-C W. Roscoe St.
Chicago 18, Illinois

Please send illustrated booklet describing the Burgess Acousti-Booth.

NAME _____

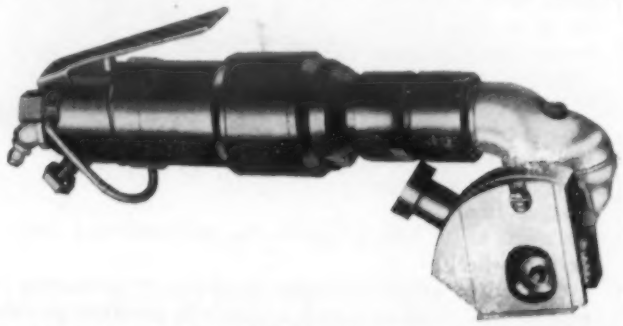
FIRM NAME _____

STREET-CITY _____

▲ Mention Item NED-911 when writing ▲

PORTABLE PNEUMATIC SAW

Designed for ripping steel, brass, aluminum and other metallic sheet, this Cleco Pneumatic Baby Saw will cut up to 3/16-inch steel at rate of 1 inch per second on straight or curved line, leaving edges free from burrs. Special



steel saw is treated for this class of work. Tool operates from shop air line pressure and is controlled by integral trigger. Weighing only 2¾ pounds and measuring 8 inches overall, this tool is convenient to use. Saw is fully protected by adjustable guard. Made by **The Cleveland Pneumatic Tool Co.**, 3781 E. Seventy-seventh St., Cleveland 5, O.

▲ Mention Item NED-912 when writing ▲

V-BELT FASTENERS

Joining of either A or B section V-belts is accomplished easily with this Flex V fastener. It consists of two V-shaped end plates, alloy metal hinge pin and self-tapping screws for securely fastening end plates to belt ends. Simple applicator is used to prepare belt ends, place and align end plates and hold screws upright during actual fastening process.

Separable hinge permits quick, easy replacement of V-belts without dismantling line shafting or machinery. Because there is no metal on underside of belt, they can be run on V-flat drive. Open end V-belting is available in roll form to be cut to required length. Made by **Flexible Steel Lacing Co.**, 4607 Lexington St., Chicago 44, Ill.

▲ Mention Item NED-913 when writing ▲

SPECIMEN MOUNTING PRESS

Utilizing air for operation, this semi-automatic specimen mounting press is designed especially for laboratory use. Air pressure is controlled by constant pressure reducing valve, thus eliminating need for hand operated hydraulic jack common to mounting presses which maintain pressure on specimens while they are curing. This automatic pressure regulation assures uniform specimens which are identical in size and hardness. This improves polishing characteristics and reduces operator's time. Equipment is completely enclosed in floor type cabinet and controls are conveniently mounted on front of cabinet. Made by **Precision Scientific Co.**, 1738 N. Springfield Ave., Chicago 47, Ill.

▲ Mention Item NED-914 when writing ▲

Proved IN AIRCRAFT ...Best FOR YOU!

Powerful worm drive means greater hose-clamping force, tighter joints, no leakage under high pressures, no loosening from vibration. Long take-up means greater usefulness, easy re-tightening. High strength and durability. Army-Navy approval for severe aircraft service means greatest dependability for your requirements. Write for descriptive "Aero-Seal" Bulletin today!

"Aero-Seal" HOSE CLAMPS

AIRCRAFT STANDARD PARTS CO., 1753 19th AVE., ROCKFORD, ILL.

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3 RUBBER-CUSHIONED Brightboy TEXTURES

Increase Production, Versatility, Operation Savings *in* BURRING, FINISHING, POLISHING

Each of these three abrasive textures is combined with resilient rubber, to widen Brightboy's outstanding versatility in close tolerance, precision finishing, to save the operations between the grind and the buff.

The rubber rubs, "cushions," cleans. It joins with the abrasive in finishing, in achieving a quality polish that is often the final.

Get prices, production literature, catalogs, from your distributor. Brightboy field men are at your service.

BRIGHTBOY INDUSTRIAL DIVISION • WELDON ROBERTS RUBBER

WELDON Bright

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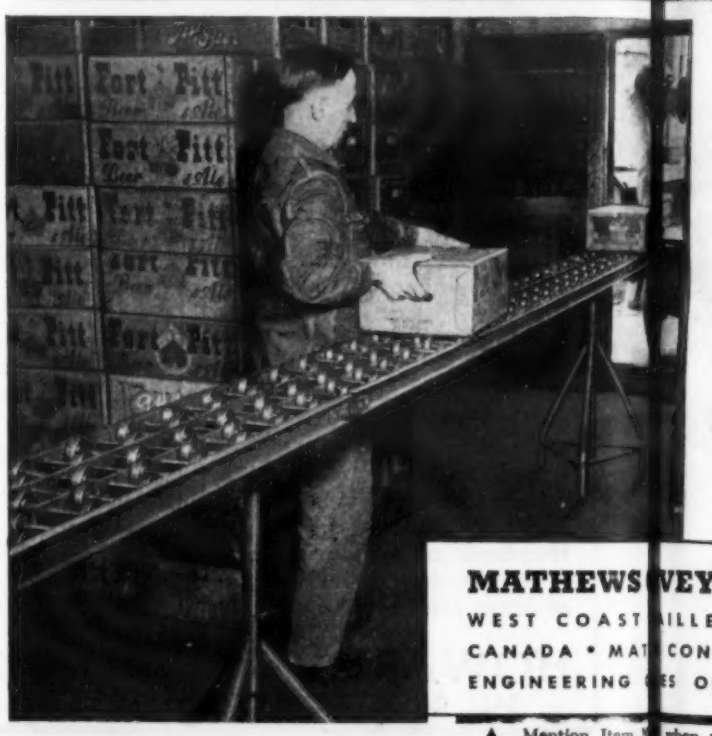
MATHEWS Flexible



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3 SKILLED WORKERS who earn double their pay

You'll find these Union Metal mater handling units pay for themselves many ti over in TIME and LABOR SAVINGS.

PALLETS SKID PLATFORMS BOXE

Furnished in the design, size and capacity your requirements. For details, write The Un Metal Manufacturing Company, Canton 5, O

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Materials Handling Equipm

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BRIGHTBOY TUFFTEX Tougher texture for finishing harder metals.

BRIGHTBOY FINE-TEX
Smoother, finer texture; for special finishes on softer metals in place of the coarser wheel.

BRIGHTBOY STANDARD
The favorite for burring, finishing, polishing the widest variety of metals and parts.

RUBBER . Newark 7, N. J.

ROBERTS
Brightboy
REG. U.S. PAT. OFF.

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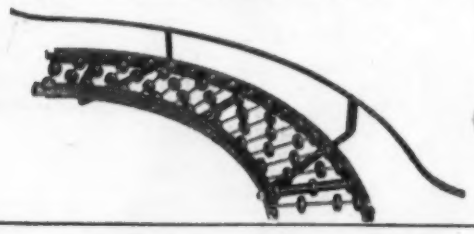
WHEEL CONVEYER

These sections of Wheel Conveyer with Universal Couplings and quickly adjustable Tripod Supports are ideal for handling cartons, cases, and miscellaneous light packages. The sections are available in 5′ and 10′ lengths, and with 8, 10 or 12 wheels per foot. The standard section width is 12″ overall. 45° and 90° Curves with adjustable guard are standard. The wheel used is a high-quality skate wheel, the result of 40 years of Mathews experience in conveyer bearing and wheel manufacture. Prices and complete information sent on request.



MATHEWS CONVEYER COMPANY • Ellwood City, Pa.
EAST MILLER SEARLES, INC., SAN FRANCISCO
• MATHEWS CONVEYER COMPANY, LTD., PORT HOPE, ONT.
BRANCHES OR SALES AGENCIES IN PRINCIPAL CITIES

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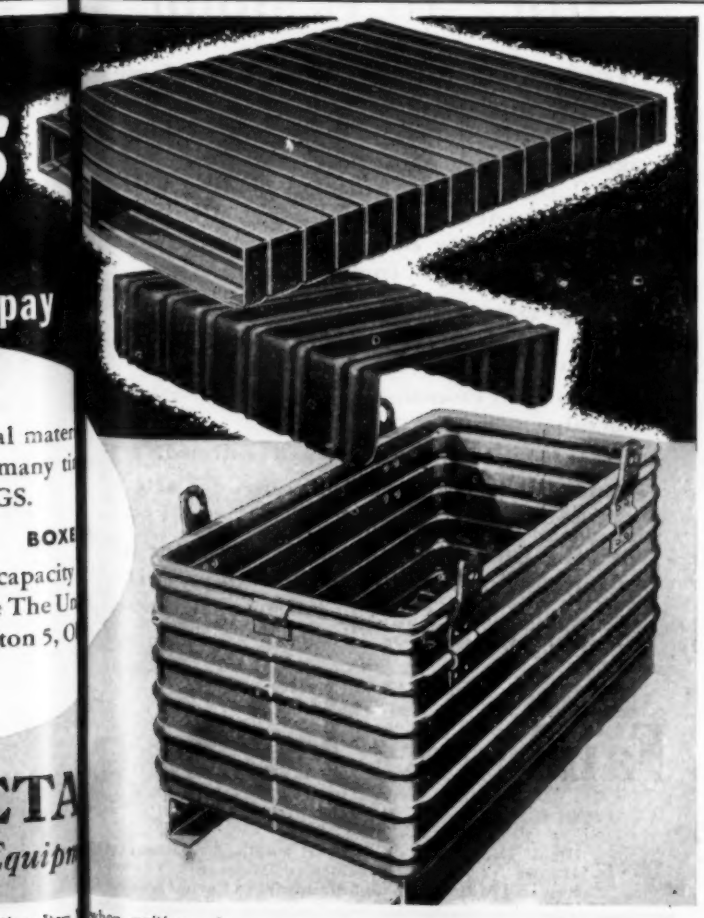


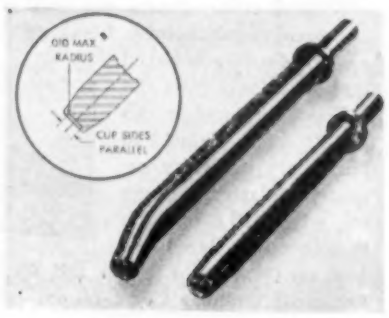
Mention Item NED-920 when writing

VOLTAGE CONTROL DEVICE

Adaptable for use on any frequency between 400 and 2600 cycles, type 60-A Variac voltage control device is 5-ampere model and is designed for 115-volt applications. Rating is 860 volt-amperes and output voltages up to 135 volts are obtainable with 115-volt input. Brush and radiator construction is such that brushes can be changed in a few seconds, if necessary. Unit is furnished with or without case and weighs 3½ pounds cased. Made by General Radio Co., State St., Cambridge 39, Mass.

Mention Item NED-919 when writing

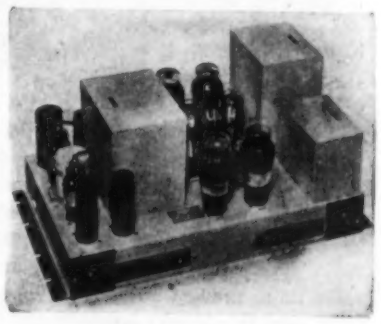
RIVET SETS



Difficult to work, flat head AN 442 rivets are easily set with these improved rivet sets having cups coined for dimensional accuracy. Cup sides are uniformly parallel and radius at cup base is held to .010 inch maximum. This design is claimed to speed production and reduce worker fatigue, while virtually eliminating physical hazard and surface damage resulting from slipping flush set or inaccurately cupped set. Original shape and dimensions of rivet head are retained. This set is available in all standard sizes of both straight and offset types. Made by Aero Tool Co., 233 W. Olive St., Burbank, Calif.

Mention Item NED-920 when writing

LOW FREQUENCY AMPLIFIER



Intended mainly to feed groups of wide range loud speakers where excellent music reproduction is required, type 101-A amplifier is designed primarily to transmit low frequency wave form at high output levels. Internal impedance is 1500 ohms, high gain, and 25,000 ohms bridging. Output impedance is adjustable to match loads from 1 to 1000 ohms. Amplifier delivers 50 watts to nominal load impedance with less than 3 per cent root mean square harmonic distortion at 400 cycles. It is finished in light gray baked enamel over zinc plating. Made by The Langevin Co., 37 W. Sixty-fifth St., New York 23, N. Y.

Mention Item NED-921 when writing

SULPHO HAND CLEANER
will not defat the skin. It has been specially formulated for workers encountering solvents, and skin drying chemicals. Send for FREE booklet.

WEST DISINFECTING Company
42-16 WEST ST. • LONG ISLAND CITY 1 • N. Y. • DEPT. DE

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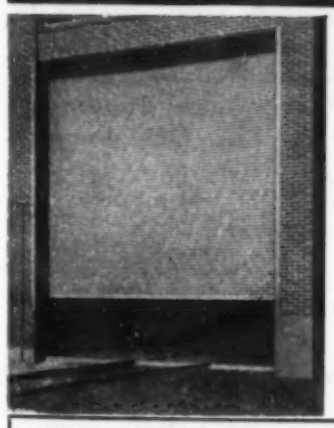
YOUR DOOR PROBLEMS END HERE

SAVING WAYS IN DOORWAYS KINNEAR ROLLING DOORS



The smooth *coiling upward action* of Kinnear Rolling Doors — the way they open overhead out of the way, safe from damage, and permit full use of all surrounding floor and wall space — means greater doorway efficiency. And these operating advantages are *built to last* in Kinnear's rugged interlocking steel-slat design (also inter-lapping wood-slat construction). Equipped with motor operation and remote control (both optional) they offer *maximum* savings in time and labor! Write for details.

The KINNEAR MFG. Co.
3017 FIELDS AVENUE, COLUMBUS 16, OHIO

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IT'S A KNACK IN OUR KNITTING

What's the secret of the remarkable JOMAC Industrial Glove Fabric? Here's the story: It is achieved on our special, pile-knitting machine . . . a loop-finished cloth girded with thousands of sturdy "cushions" to protect workers' hands on their many hot and heavy jobs. America's leading shops give JOMAC Gloves a top rating for protection, washability, increased production . . . and for giving up to 7 *times the wear* of ordinary work-gloves! Also available in special Heat- and Flame-Resisting styles.

JOMAC'S LATEST CREATION—Safety *GAUNTLET-CUFFS*. Now, you simply replace worn glove without the expense of buying full gauntlet.

TRY JOMAC GLOVES—Test them in your own shop—on your *toughest jobs*. Check them for wear, for washability, for increased production. Write for full details. C. WALKER JONES CO., Philadelphia 38, Penna.

JOMAC INDUSTRIAL GLOVES

THREE TYPES OF JOMAC GLOVES
• Regular Industrial Type • Heat- and Flame-Resisting • Safety Gauntlet-Cuffs

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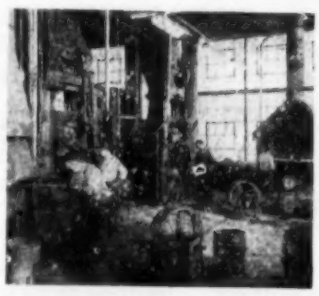
RITCO



DROP FORGINGS TO YOUR SPECIFICATIONS

Experienced operators with modern machinery produce RITCO bright finish drop forgings. Smooth and free of flash, RITCO forgings are uniform in strength and accurately made to your specifications, in weights from 1/4 lb. to 25 lbs. Estimates gladly submitted.

Remember RITCO *for*
SPECIAL BOLTS, NUTS AND STUDS
DROP FORGING AND DIE SINKING
HEAT TREATING • SPRAYED METAL SERVICE
PARKERIZING • CENTERLESS GRINDING
We will gladly quote on your specifications.
Catalog on Request

RHODE ISLAND TOOL CO.
148 West River St., Providence 1, R. I.
Serving America's Industry Since 1834

Mention Item NED-925 when writing

GOODYEAR
DEKTRED*
NON-SLIP, SAFETY FLOORING

STOP THIS FOOT FROM SLIPPING

Trowel or spray a light coating, only 1/16 inch, over concrete, wood or steel. Small, mineral particles (firmly imbedded in coating) provide non-slip surface. Covering is impervious to oils, grease, mild acids, alkalies, sulphur and sunlight. Quickly applied; usual application ready for light traffic in 2 hours, for heavy in eight.

WRITE FOR LITERATURE

*DEKTRED is the trade mark of a development by Goodyear Tire & Rubber Company. Industrial plants are following lead of marine users who had to give men firm footing on exposed decks and in interiors of ships.

FOR OUTSTANDING ACHIEVEMENT

ADDRESS INQUIRIES TO DEPT. 101

SELBY, BATTERSBY & COMPANY
Wilford Bldg., 33rd and Arch Streets, PHILADELPHIA 4, PA.
136 Liberty Street, NEW YORK 6, N. Y. 803 Maryland Trust Bldg., BALTIMORE 2, MD.

▲ Mention Item NED-926 when writing ▲

Use ONE JOINT SEAL

OIL
WATER
STEAM
GASOLINE
FREON
BENZINE
AMMONIA
PROPANE
BUTANE
AIR

JOHN CRANE INSOLUBLE PLASTIC LEAD SEAL

For ALL these services!

- Insoluble—Stays put; will not wash out
- Seals Permanently—Fills clearances and imperfections
- Eliminates galling, rust—Joints easily taken apart later
- Never hardens—Can't crack under vibration or strain
- Ready for use—Packed in 1, 5 and 7 lb. cans

John Crane Plastic Lead Seal is ONE compound for ALL general services. Use it for plant maintenance and production assembly. A test tells the full story. Write us—sample will be sent immediately.

CRANE PACKING COMPANY
1816 CUYLER AVENUE • CHICAGO 13, ILLINOIS

▲ Mention Item NED-927 when writing ▲

Now... A LOW-COST, SMOOTH OPERATING HOIST FOR ALL LIFTING JOBS UP TO 500 LBS.

P&H HANDI-LIFT

Newest, most efficient small hoist! P&H Handi-lifts speed up material handling . . . reduce worker's fatigue . . . lower production costs . . . save manpower. Can be easily and quickly installed. Simple to operate. They are the answer for faster production today — lower cost production tomorrow.

LOOK AT THESE BIG ADVANTAGES!

Sturdy, compact, lightweight; 500 lb. (plus generous reserve capacity); 3 types mounting—bolt, hook, trolley; dust, acid and weather-proof; one-hand control; safety limit stop; dual brake operation; flexible proof-tested chain; flood lubrication; built to last for years. Operates on 3 phase, 60 cycle, 220 or 440 volts.

P&H also builds three other series of wire rope electric hoists—capacities up to 15 tons.

General Offices:
4837 W. National Ave., Milwaukee 14, Wis.

ASK FOR NEW BULLETIN H-23

HARNISCHFEGER CORPORATION

▲ Mention Item NED-928 when writing ▲

PLATE BENDING ROLL

Of bench type, this model 2-L plate bending roll is also available with legs or with stands as shown in illustration. Lengths of 38 to 98 inches are available and capacities range from 7 to 16 gage and thinner. It features totally enclosed speed reduction unit. Top shaft is raised and lowered for removal of cylinder by means of hand crank at tail end of machine. It is driven by 3 horsepower motor through short V-belt drive. No priority is required for purchase of machine. Made by **Webb Corp., Webb City, Mo.**

▲ Mention Item NED-929 when writing ▲

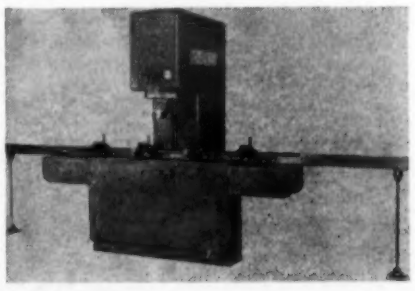
WELDING COVER GLASSES

Intended for use with standard welding shields, IPCO processed cover glasses are treated with protective coating to guard against heat breakage and damage from metal spatter. Coating is baked on both sides of glass and will not pit, peel or rub off. They are claimed to outlast up to fifteen ordinary glasses. Prices range from 10 cents each in lots up to 249 to as low as 4½ cents each in lots of 5000 or more. Made by **Industrial Products Co.**, 2807 N. Fourth St., Philadelphia 33, Pa.

▲ Mention Item NED-930 when writing ▲

STRAIGHTENING PRESSES

Hydraulically operated and accurately controllable, this line of straightening presses is designed for both rough and finished work. Reinforced, welded steel construction is used, with built-in motor and direct acting hydraulic cylinder in head of machine. Light pressure hand and foot pedal controls are standard. Easily read pressure gage on head of machine indicates exact pressure being applied to workpiece.



Straightening fixtures are supplied with either center or roller type work supports which are mounted on long guide rail. Rails prevent sagging of long work at points beyond work anvils. Work supports are mounted on guide rails through free action rollers which facilitate shifting of supports to either side of ram.

Ram nose and work support anvils can be furnished in bronze instead of steel, if indicated for protection of finished surfaces during straightening. Presses are available with capacities of up to 50 tons. Made by **Colonial Broach Co.**, Box 37, Harper Station, Detroit 13, Mich.

▲ Mention Item NED-931 when writing ▲

AVAILABLE IN STANDARD PANELS

FREE CIRCULATION OF AIR, HEAT AND LIGHT is one of the many advantages of Logan Woven Wire Barriers. They are also cheaper than wood and give 100% protection to tools and materials in tool, stock and inspection rooms. Standard panels, painted black and with floor sockets and bolts, 5' by 8', $9.04 each; 5' by 7', $8.45 each. 3' wide hinged gates with lock and transom, 8' high, $16.45; 7' high, $15.90. Also, special width panels, sliding gates, service windows. Order now—giving priority.

Builders Iron Division
LOGAN CO., Inc.
1000 Franklin St., Louisville 8, Ky.

LOGAN WOVEN WIRE BARRIERS

▲ Mention Item NED-932 when writing ▲

ONE OF A SERIES PORTRAYING "THE SPEED NUT FAMILY OF FASTENERS"

PUSH-ON SPEED NUT

JUST A Push AND IT LOCKS!

SPEED NUT is started over stud by hand . . .

. . . then pushed down on stud with tool.

Spring Tension Lock

Parts are held together with firm spring tension lock.

This unique spring steel fastener needs only to be pushed over rivets, nails, tubing, wire, integral die cast or plastic studs to lock parts firmly together.

Save threaded inserts, drilling and tapping, reduce mold costs and assembly time, prevent vibration loosening. Available in many sizes and shapes.

Write now for samples of Push-On type SPEED NUTS, giving stud diameter and any other pertinent assembly details.

FLAT TYPE SPEED NUT

TINNERMAN PRODUCTS, INC.
2044 Fulton Road • Cleveland 13, Ohio

Speed Nuts

THE BASIC PRINCIPLE of Spring-Tension Lock is Embodied in all Speed Nut Designs

▲ Mention Item NED-933 when writing ▲

The New Fairbanks-Morse Motor with Copperspun ROTOR

It's Protected and Still a 40° C. Motor

You can use the new Fairbanks-Morse general-purpose Motor at full rated capacity continuously without fear of damage from overheating. Its new cross-flow ventilation insures uniform cooling with no hot spots. And that isn't all. This versatile motor offers you many other advanced features, including:

- **Copperspun Rotor**—only Fairbanks-Morse Motors have rotors centrifugally cast in one piece and of copper.
- **Protected Frame**—excludes falling particles and dripping liquids.
- **Ball Bearings**—sealed in and protected.
- **Adaptable Conduit Box**—provides alternate assembly.

Get the full story of how this "motor of tomorrow" could serve you today. Write Fairbanks, Morse & Co., Fairbanks-Morse Building, Chicago 5, Illinois

BUY MORE WAR BONDS

Fairbanks-Morse
A name worth remembering

Diesel Locomotives • Diesel Engines • Generators • Motors • Pumps • Scales • Magnetos • Stokers • Railroad Motor Cars and Standpipes • Farm Equipment

▲ Mention Item NED-934 when writing ▲

FLOOR PLATE

THE ORIGINAL DIAMOND GRIP

NEVERSLIP

LOOK AT THE "DIAMONDS"

See how the arrangement of the perfect Diamonds on NEVERSLIP Rolled Steel Floor Plate provides perfect traction—a safe, non-slip surface *from every direction.*

Note closely the formation of each Diamond . . the taper toward the top that eliminates any possibility of catching heel or toe. Notice the clean cut edges that grip and hold . . . the *flat* top that furnishes a smooth, level trucking surface. The spacing and arrangement of the Diamonds permits easy cleaning and unobstructed drainage. Machine shops, foundries, steel mills . . . all give Floor Plate a work out . . . but the structural strength and hard, enduring surface of NEVERSLIP shows no appreciable wear—after years of hard service.

In planning for post war reconversion specify NEVERSLIP used by industry for over 40 years.

PINE IRON WORKS COMPANY

"Nothing But Floor Plates"

Commercial Trust Bldg., Phila. 2, Pa.
Mill: Pine Forge, Berks Co., Pa.

▲ Mention Item NED-935 when writing ▲

WRITE FOR COMPLETE SHALLCROSS INSTRUMENT CATALOG!

No. 845
Popular Three Decade Type
Input constant: 1,000 ohms.
Voltage increments: 0.001 to 1.0 in steps of 0.001

No. 835
Four Decade Voltage Divider
Input constant: 10,000 ohms.
Voltage increments: 0.0001 to 1.0 in steps of 0.0001

Shallcross DECADE POTENTIOMETERS
(Accurate Voltage Dividers)

Shallcross Decade Potentiometers or Voltage Dividers are designed to provide accurate increments of input voltages. Actually, the instruments consist of two accurately calibrated resistance boxes operated simultaneously by a single set of controls. As the dials are rotated, the resistance in one circuit increases while the resistance in the other circuit decreases by the same amount. Thus the total resistance remains constant across the input terminals.

These accurate Voltage Dividers are available in a wide range of total resistances and voltage increments. For complete details, or for special units for specialized applications write, giving full particulars of your application.

SHALLCROSS MFG. CO.
Engineering · Designing · Manufacturing
DEPT. D-25 COLLINGDALE, PA.

▲ Mention Item NED-936 when writing ▲

WARM UP *the* COLD SPOTS
WITH YOUNG UNIT HEATERS

Type "V" for Vertical Air Flow
Type "SH" for Horizontal Air delivery

"Streamaire" Unit Heaters can be used to advantage whether the area to be heated is large or small. Their saving of floor space, ease of installation, efficient operation, low "first" and maintenance costs, make them desirable for existing or new buildings. If you have a heating or air conditioning problem write or consult the nearest Young representative.

YOUNG RADIATOR COMPANY
Dept. 425-B, Racine, Wisconsin, U. S. A.
REPRESENTATIVES IN PRINCIPAL CITIES

YOUNG
BUY BONDS PRODUCE MORE SALVAGE SCRAP WIN THE WAR

HEAT TRANSFER PRODUCTS
Oil Coolers • Gas, Gasoline Diesel Engine Cooling Radiators • Intercoolers • Heat Exchangers • Engine Jacket Water Coolers • Unit Heaters • Convectors • Condensers • Evaporators • Air Conditioning Units • Heating Coils • Cooling Coils • and a complete line of Heat Transfer Equipment for Aircraft.

▲ Mention Item NED-937 when writing ▲

SOLID POLISHING WHEELS

Marketed under the trade name of Norflex, this line of solid polishing wheels includes cork resinoid, fiber resinoid and resilient rubber types. These various types meet special requirements of wide range of deburring, finishing and polishing operations which, in the not too distant past, were performed by slow, laborious hand filing, scraping and sanding.

All three types of Norflex abrasive wheels and sticks are similar in that they possess a relatively soft, flexible bond that imparts cushion-like action to assure smooth, uniform finish. They differ from conventional grinding wheels in that they are designed to remove only a relatively small amount of material such as a burr or sharp edge, or to polish a surface rapidly which is already to size. Three types differ from each other with respect to kind of bond which supports the abrasive grain.

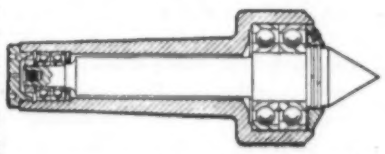
Fiber resinoid type wheel consists of uniformly sized abrasive grains mixed with cotton fibers and held together with resinoid bond. Somewhat resilient, fast cutting action is provided for deburring and polishing. Wheel affords smooth cutting action for removal of light tool marks. Speeds up to 9000 surface feet per minute can be used in hardest grades.

Resilient rubber wheels have comparatively soft rubber bond which imparts cushion-like cutting action. They are not suitable for operation at speeds in excess of 6000 surface feet per minute in hardest grades. Range of application overlaps that of fiber resinoid types.

Cork resinoid types are used for many offhand polishing jobs, particularly on precision polishing in cylindrical grinders, centerless grinders, surface grinders and internal grinders. These wheels are available in various bond contents, structures and with different densities of cork to meet widely varying conditions. Made by **Norton Co.**, 200 New Bond St., Worcester, Mass.

▲ Mention Item NED-938 when writing ▲

HEAVY DUTY LIVE CENTER



Capable of handling radial loads of up to 5750 pounds and thrust loads of 8500 pounds, No. 6MH live center utilizes two precision ball bearings in tandem to support spindle and two angular contact preloaded ball bearings to support it at rear of housing. This arrangement eliminates radial play and possible chatter. Two sealing rings are used to protect bearings against entrance of chips, dust, coolant or other foreign matter.

Point is easily redressed by inserting it in tail stock with retainer plug removed. Small steel rod is screwed into threaded hole in end of spindle of live center. By rotating spindle point with this rod and using tool post grinder, accurate redressing of point is accomplished. Center has No. 6 Morse taper only. Made by **Ideal Commutator Dresser Co.**, 1032 Park Ave., Sycamore, Ill.

▲ Mention Item NED-939 when writing ▲

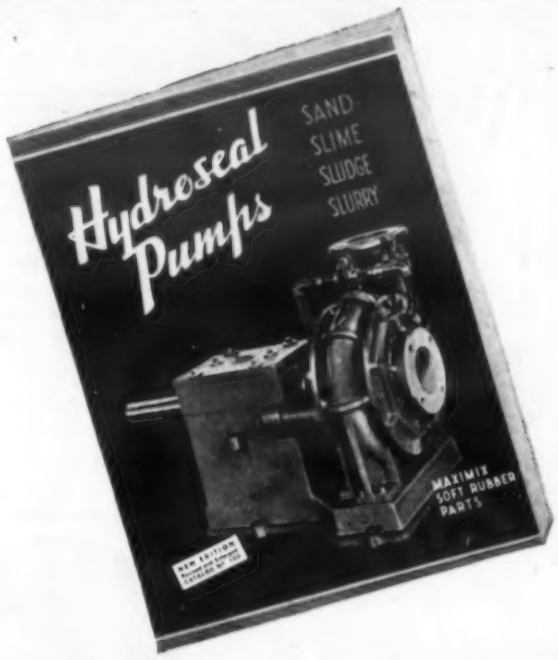
CONVENIENT
Pocket-Size for
CONTINUITY TESTING

WESTON
MODEL 689
OHMMETER

Pocket-size but with typical WESTON dependability and ruggedness, Model 689 Ohmmeters are unequalled for checking circuits by resistance and continuity method. Available in two types . . . type 1E with double range of 0-5,000 ohms and 0-50,000 ohms, and type 1F with double range of 0-10 and 0-1000 ohms . . . ideal for motor maintenance. Entirely self-contained. Order through your local Weston representative, or direct from . . . Weston Electrical Instrument Corporation, 663 Frelinghuysen Avenue, Newark 5, New Jersey.

WESTON *Instruments*

▲ Mention Item NED-940 when writing ▲



Specially Designed for Abrasives Pumping

Hydrosealing prevents abrasive solution being pumped from wearing the sides of the impeller and the pump side plates. Maximix Rubber Pumping Parts prevent abrasive solution from coming in contact with any metal part of the pump. Result—Power savings of 1/3 to 1/2. Maintenance reduced to a fraction, for Maximix generally outlasts metal 4 to 6 times or more. Maximix Parts take the wear, and they are easily replaced in the field, making the pump "good as new" in efficiency and capacity. Send for Bulletin 140. ***The Allen-Sherman-Hoff Co., 1429 Locust St., Phila. 2, Pa. Representatives in Most Principal Cities.***

▲ Mention Item NED-941 when writing ▲

ALLOY STEEL CASTING
Triple Heat Treated
TO WITHSTAND SEVERE ABRASION!

Terrific abrasion—encountered by the impellors for sand pumps at a large glass plant—had reduced the life of impellor castings to 90 days! Unitcast metallurgists recommended a change from manganese steel to a triple heat treated alloy steel casting with high silicon and molybdenum content. The result—life of the castings *doubled!* Unitcast know-how and modern facilities build better castings! Write. Unitcast Corporation, Toledo, Ohio.

UNITCAST CORPORATION
ALLOY AND CARBON ELECTRIC STEEL CASTINGS

▲ Mention Item NED-942 when writing ▲

WANT INFORMATION ABOUT
MARKING?

There is a Matthews Marking Device for every industrial marking need! Let us recommend the proper tools to mark your products most efficiently and most economically.

Check *items you are interested in:*

- ☐ STEEL STAMPS AND DIES
- ☐ MARKING MACHINES
- ☐ INTERCHANGEABLE TYPEHOLDERS
- ☐ STENCIL MASKS
- ☐ METAL CHECKS—BADGES
- ☐ NAME AND IDENTIFICATION PLATES

FOR COMPLETE DATA Check This Ad Attach To Your Letterhead

And Return To

JAS. H. MATTHEWS & CO.
3943 Forbes Street Pittsburgh 13 Pa.
Branch Plants
New York, Boston, Chicago, Philadelphia, Newark, Syracuse
District Sales Offices
Cleveland Detroit Hartford Birmingham

▲ Mention Item NED-943 when writing ▲

Rawhide

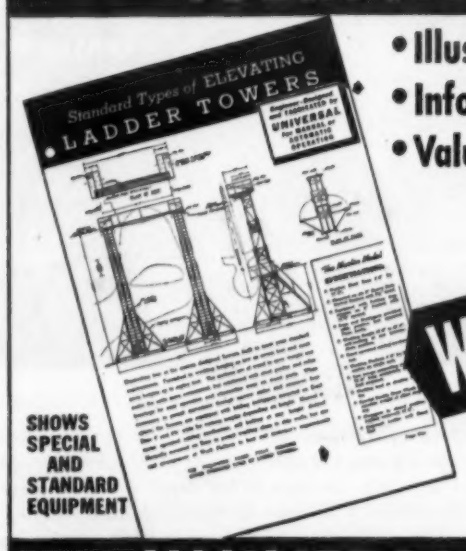
The best "soft" hammers and mallets are rawhide — tough, resilient, long-lasting C/R mechanical rawhide. They strike effective blows without battering or marring . . . without fatiguing re-coil. They hold their true striking surfaces. Sizes and weights for every need. Hammers are malleable iron with replaceable C/R Rawhide insert faces.

Write for Catalog Sheets.

CHICAGO Rawhide MFG. CO.
1287 ELSTON AVE. ★ CHICAGO, ILLINOIS.

▲ Mention Item NED-944 when writing ▲

SEND FOR THIS IMPORTANT *Bulletin* TODAY . . .



• Illustrated
• Informative
• Valuable

WRITE

SHOWS SPECIAL AND STANDARD EQUIPMENT

UNIVERSAL
FITTINGS and SCAFFOLDING CO.
Zelienople (Pittsburgh District) Pa.

▲ Mention Item NED-945 when writing ▲

. . . JUST TRY 1

MOCCASIN BUSHING *on your most* TROUBLESOME BEARING

The success of Moccasin Bushings' efficiency lies in their unique lubrication principle. Oil is drawn from a reservoir in the bearing housing and is distributed by capillary action in a continuous, unbroken film over the entire bearing surface. Drippage and seepage of oil is entirely eliminated, and under ordinary circumstances they require attention only two to four times a year—just try one on your most troublesome bearing. Guaranteed for satisfactory service.

Moccasin
BUSHING COMPANY
CHATTANOOGA, TENNESSEE

▲ Mention Item NED-946 when writing ▲

TIPPED SHELL END MILLS

Small standard shell end mills with brazed-in blades of Stellite cobalt-chromium-tungsten alloy can be supplied with either Stellite 98M2 or Star J-metal blades. Steel bodies are used and diameters range from 1¼ to 6 inches, with face thicknesses from 1 to 2¼ inches. Cutters are ready to use and are adaptable for milling aluminum, bronze, cast iron, brass, alloys and some steels. Made by Haynes Stellite Co., Kokomo, Ind.

▲ Mention Item NED-947 when writing ▲

STANDARDIZED DREDGES

Hydraulic, dipper and clam-shell dredges of completely integrated and standardized design are scheduled for production as soon as present commitments for U. S. Army will permit. All dredges will have bolted sectional steel hulls. All sub-assemblies and equipment can be transported conveniently overland to remote locations or shipped as hold cargo. Even largest single component can be handled by portable crane equipment.

By standardizing hull sections and planning distribution of weight and operating machinery, substantial savings in production time and material costs have been effected. Line of hydraulic dredges will include 6, 8, 10, 12, 16 and 20-inch sizes and they will be built for diesel-electric, electric, steam or diesel power. Line of standard dipper and clam-shell units will have capacity range from ¾ to 3 cubic yards and will be powered by diesel, steam, diesel-electric or electric prime movers. Hoists will be rigged for either two-part or single line operation. On smaller units, booms are interchangeable so that conversion is quickly made from dipper to clam-shell types of operation. To be made by American Steel Dredge Co., Fort Wayne, Ind.

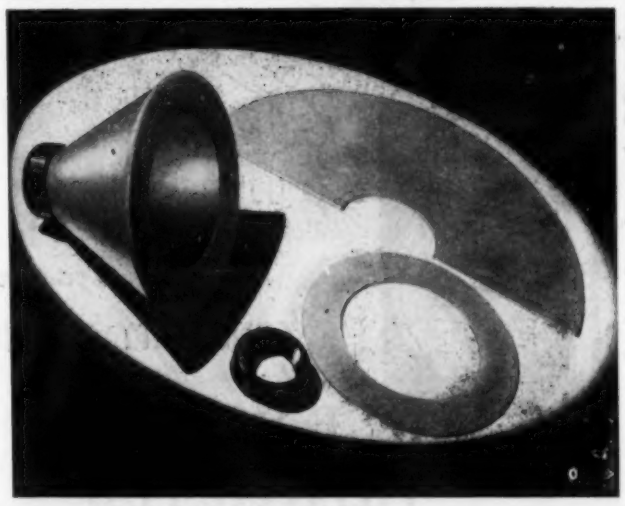
▲ Mention Item NED-948 when writing ▲

SNAP-ACTION RELAY

Adaptable to wide variety of applications where low cost and ease of adjustment are requisites, type 79XAX relay has been redesigned. This snap-action, sensitive unit features full normally closed and open contact pressures. Armature almost completes its travel in either direction before contacts snap into new position. This permits broad range of use including vacuum tube circuits, overcurrent protection, pulsing circuits and applications where close differentials or extreme sensitivity of operation is required.

Standard adjustment using 60 ampere turns in coil at approximately .02 watt results in contact pressures of 5 grams with contacts rated at 5 amperes, 115 volts alternating current or .5 amperes, 115 volts direct current, noninductive. Contact ratings up to 10 amperes, 115 volts alternating current may be obtained with 100 or more ampere turns and corresponding increase in power. Made by Struthers-Dunn, Inc., 1321 Arch St., Philadelphia 7, Pa.

▲ Mention Item NED-949 when writing ▲



A pipe coupling and some sheet SARAN made this ANTI-SPLASH ACID FUNNEL

It illustrates but one of the innumerable uses for SARAN plastic tube, pipe, sheet and rod. Wherever corrosion is the problem, depend on SARAN for the solution, for SARAN is corrosion-proof against most acids and chemicals, and is easy to fabricate for your particular need.

SARAN

Send for technical bulletin P-11

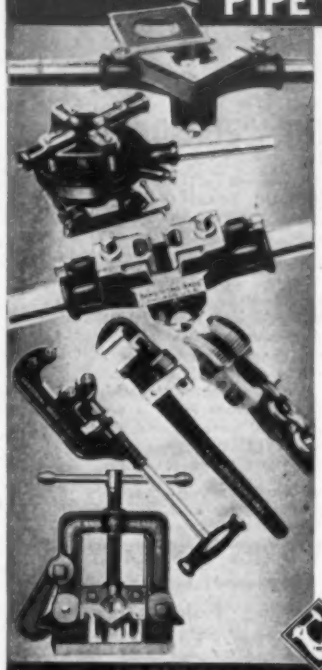
HODGMAN RUBBER CO.
Framingham, Mass.
261 Fifth Ave. New York | 121 Second St. San Francisco | 173 W. Madison Ave. Chicago

*U. S. Pat. No. 2160931

▲ Mention Item NED-950 when writing ▲

Look for the Arm-and-Hammer

ARMSTRONG BROS.
PIPE TOOLS



The "ARMSTRONG BROS." Line of Pipe Tools is the most extensive manufactured, including:

Adjustable Dies and Stocks
Solid Dies and Stocks
Receding Threaders and Chasers
Hinged Open-Side and Chain Pipe Vises
"Drop Forged," "Combination," "Saunders Type" and "Barnes Type" Pipe Cutters and Knife Blade Cutter Wheels
Drop Forge Pipe Wrenches, Chain Wrenches and Chain Tongs
Ratchet Pipe Reamers, etc.

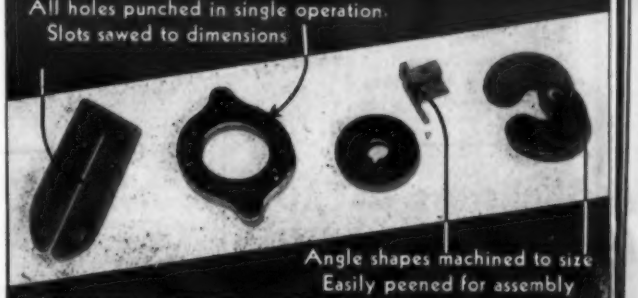
Each is an improved tool — a handier tool with drop forged, hardened or alloy steel parts wherever they will add strength, balance or tool life.

Write for Catalog C-39a

ARMSTRONG BROS. TOOL CO.
"The Tool Holder People"
307 N. FRANCISCO AVE. CHICAGO, U. S. A.
Eastern Warehouse & Sales: 199 Lafayette St., New York

▲ Mention Item NED-951 when writing ▲

G-E LAMINATED PLASTICS
FABRICATED TO SPECIFICATIONS



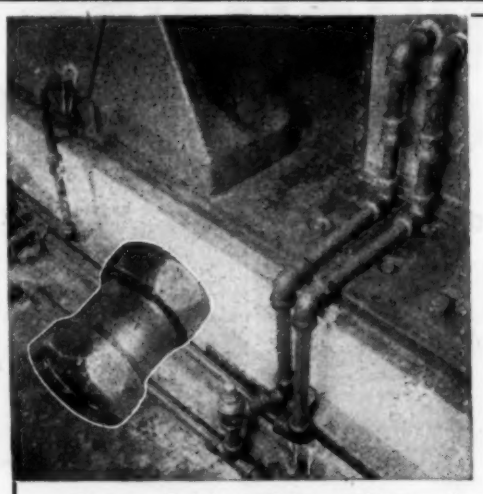
PUNCHED — DRILLED — SAWED
TURNED — TAPPED — THREADED
MILLED — PLANED — FLY-CUT

Laminated sheets, rods and tubes of G-E Textolite may be fabricated in countless sizes and shapes. Paper-, canvas-, and linen-base types available to many manufacturers for improvement of products. Write Sec. H-9

ONE PLASTICS AVENUE
PITTSFIELD, MASS.

PLASTICS DIVISIONS
GENERAL ELECTRIC

▲ Mention Item NED-952 when writing ▲



JOIN PIPE FAST

Dresser Boltless Fittings, shown above, greatly simplify small pipe joining. They come completely assembled. To install, slip over pipe-ends and tighten end nuts. No threading—no tool but a wrench! Sizes, ⅜"—2" IPS and copper tubing.

Other Dresser Couplings, Fittings, Repair Clamps and Sleeves for practically all kinds and sizes of pipe. Catalogs on request.

DRESSER MANUFACTURING COMPANY
BRADFORD, PA.

▲ Mention Item NED-953 when writing ▲

KRW *offers* VERSATILITY *and* ADAPTABILITY *in* HYDRAULIC ARBOR PRESSES

It took War's demands for speed and more speed to demonstrate the unusual versatility and adaptability of the KRW Hydraulic Arbor Press. In many cases, when other equipment was not immediately obtainable, we were called on to adapt our hydraulic arbor presses to save the day productionwise. All of these special presses incorporate the time-proven features of the standard KRW Hydraulic Arbor presses. They are now available... *BUILT TO ORDER . . . for 2 to 3 week delivery* on all orders carrying a priority of AA-4 or better. If you have a problem that a special design press might solve, call us now. Write for our new bulletin describing KRW Hydraulic Presses in 25, 50, 60 and 75-ton capacities.

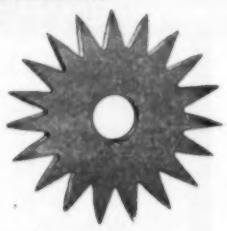
K. R. WILSON
DEPT. S, 215 MAIN ST., BUFFALO 3, N. Y.

▲ Mention Item NED-954 when writing ▲

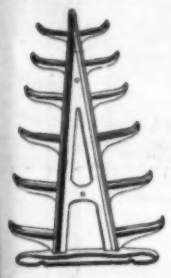
EVERY ONE A "CHAMPION"

CHAMPION

EMERY WHEEL DRESSER



A mechanically correct dresser with cutters made of steel of our own specification—the result of years of specialized study and manufacture of cutters. Cutter set provided with revolving sleeve that turns uniformly and prevents grooving of spindle. Patented spindle bearing. Also patented handle cap that serves as bearing clamp, eliminates set screws and eliminates moving parts that wear. The Champion Dresser will outwear many cheaper dressers . . . a fact proved for years by thousands of shops.



STEEL RACKS

A rack, 5 ft. high with 6 different length arms, that's built to hold all the steel you can place on it. Also built in wall type and with adjustable arms for bar stock or shelving. Cuts cost in stock handling.

The WESTERN Tool and Manufacturing Co.
. . . SPRINGFIELD, OHIO . . .

▲ Mention Item NED-955 when writing ▲

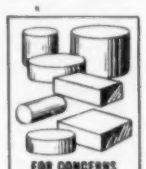
Immediate Delivery FROM STOCK

GREAVES-SILENT BAKELITE GEARS

No waiting when you order Greaves Silent Bakelite Gears. • We have them in stock NOW! • Your order will go forward immediately. • You'll appreciate the silent operation and added smoothness provided by Greaves Silent Bakelite Gears. • You'll marvel at their great strength to carry big power loads . . . their remarkable ability to successfully operate completely submerged in water. • You'll welcome their low cost. • No metal reinforcements required. • Save Time . . . Money . . . Labor!

We also make silent gears of rawhide and Fabriol.

Write for Circular.

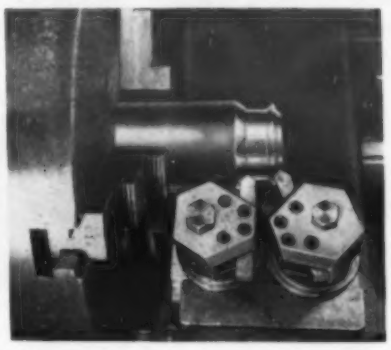


FOR CONCERNS CUTTING THEIR OWN GEARS, WE CAN MAKE IMMEDIATE DELIVERY ON BLANKS SAWED TO SPECIFIED DIAMETER AND FACE

Greaves MACHINE TOOL CO.
2009-11 Eastern Avenue
Cincinnati, Ohio

▲ Mention Item NED-956 when writing ▲

CARBIDE TOOL HOLDER



Elimination of all chatter is accomplished with this carbide tool holder which holds tool solidly. Once holder is adjusted for set-up, tool can be removed for sharpening without destroying original setting. It can be placed close to work and is easily adjusted for height without use of shims or blocks. Height is adjusted by means of knurled nut.

Two tools may be used simultaneously for turning two diameters. Holders are adaptable for use on screw machines for single or multiple grooving, boring, facing and counter boring operations. It is available with slot sizes from ⅜ inch up and T-slot anchor is provided to fit cross slide of lathe. Made by **Howard Mfg. Co.**, 3372 W. 140th St., Cleveland 11, O.

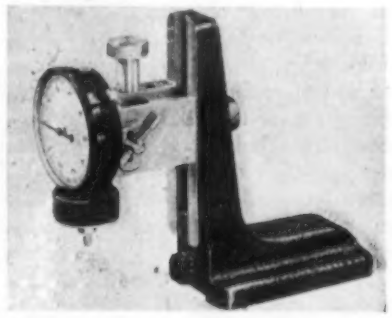
▲ Mention Item NED-957 when writing ▲

CONCRETE SEALER

Water leaks in concrete work are easily stopped with Seep-Seal. This material is mixed with cement and can be inserted in cracks or holes in concrete while water is actually gushing out. It is claimed to stop leaks in 2 minutes in subways, mine shafts, reservoirs, foundations and other underground concrete structures. Material may also be used for damp-proofing walls where mild seepage is encountered. Made by **Rock-Tred Corp.**, Dept. H, 629 W. Washington St., Chicago 6, Ill.

▲ Mention Item NED-958 when writing ▲

NONFERROUS INDICATOR



Designed for free use in active magnetic field, this nonferrous model pedestal indicator is particularly useful for setting up work which is held on magnetic chuck. All parts, except dial indicator, are of hard brass. It may be used for gaging from flat surfaces such as machine tables, surface plates, bed or upright ways and similar locations.

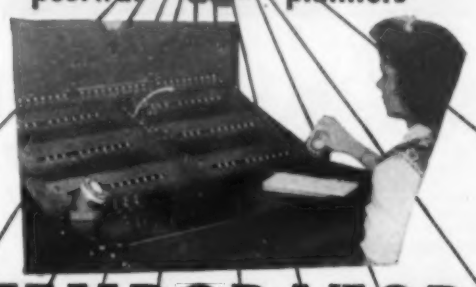
For approximate settings, carriage block is clamped where desired on upright. Dial indicator is then adjusted to exact position on face of carriage block with micrometer screw and clamped separately. This construction permits vernier adjustment. Carriage block gives increased clearance from face of pedestal upright.

Dial of indicator has first division reading of .0001 inch. Overall height is 8 inches, with range of approximately 4 inches from base surface upward. All surfaces except those which are ground or polished are finished in black crackle. Made by **Bartelt Engineering Co.**, 1412 Partridge Ave., Beloit, Wis.

▲ Mention Item NED-959 when writing ▲

▲ Mention Item NED-960 when writing ▲

Just in time for postwar planners



TEMPORATOR

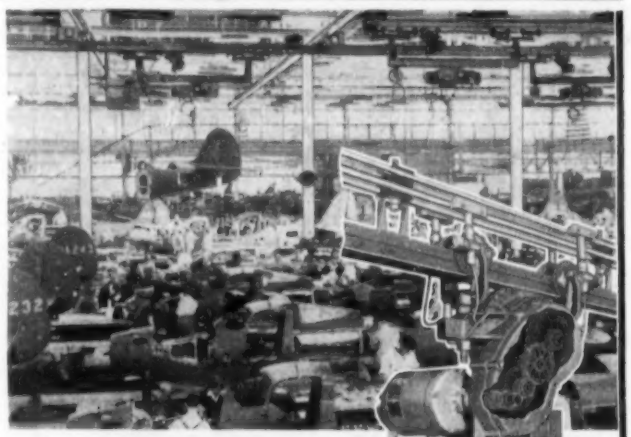
COMPLETE-INSTANT-CENTRALIZED
TIME - COST - PRODUCTION - EMPLOYE
MATERIALS - INVENTORY - SHIPPING

CONTROL

Amazing culmination of more than fifty years experience in the production of time and cost control equipment. New inter-communicating system adaptable to wherever large volume of information must be instantly and accurately communicated. Brochure D-2, now ready, mailed on request.

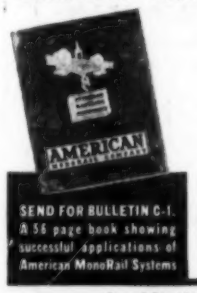
SIMPLEX TIME RECORDER CO., Gardner, Mass.
Branch Offices in Principal Cities

▲ Mention Item NED-961 when writing ▲



. . MOTORIZE YOUR OVERHEAD HANDLING

To propel heavy loads on hoists or cranes, the American MonoTractor offers the most practical solution. Experienced American MonoRail Engineers will gladly suggest economical applications. Write for Bulletin C-1 showing many installations.



SEND FOR BULLETIN C-1. A 56 page book showing successful applications of American MonoRail Systems

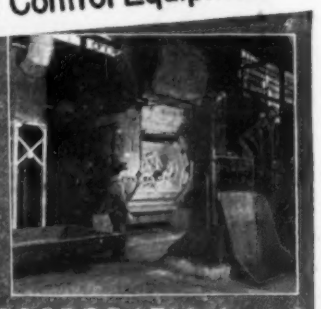
THE AMERICAN MONORAIL CO.
13116 Athens Avenue • Cleveland 7, Ohio

▲ Mention Item NED-962 when writing ▲

YOU GET S-P-E-E-D WITH EFFICIENCY IN BLAST CLEANING EQUIPMENT MADE BY

PANGBORN

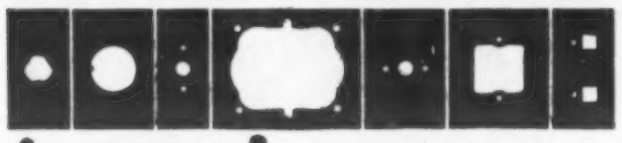
World's Largest Manufacturer of Blast Cleaning and Dust Control Equipment

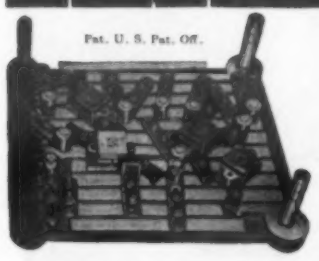


The Pangborn Line ranges from this big ROTOBLAST Barrel on down through Tables, Rooms and Special Machines to the small, compact, blast cleaning Cabinet. Hand in hand go the many sizes of Dust Control Equipment, to present the perfect team for SPEED and EFFICIENCY.

PANGBORN CORPORATION
HAGERSTOWN . . . . MARYLAND

▲ Mention Item NED-963 when writing ▲





WHISTLER ADJUSTABLE DIES

Precision Perforating and Notching
READY FOR PRODUCTION

Multiply the production of your presses. More holes in given area—reduces "down" time—years of use in different pattern arrangements—complete interchangeability of parts—no special tools—in all standard sizes from 1/32". Whistler dies, tools and production machinery are used the world over.

Every Production Executive should have this Catalog. Write:

S. B. WHISTLER & SONS, Inc.
752-756 MILITARY ROAD BUFFALO, N. Y.

▲ Mention Item NED-964 when writing ▲

HEIN-WERNER HYDRAULIC JACKS

Great for
✓ lifting heavy loads
✓ moving machinery
✓ pressing gears
✓ other applications

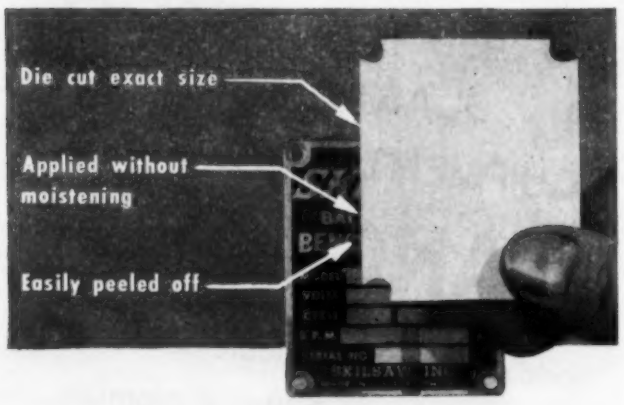
(Model 30.11A)

Take a look around your factory and you will find many uses for Hein-Werner Hydraulic Jacks... These super-powerful, easy-operating, absolutely dependable hydraulic jacks save time and labor when it comes to lifting heavy loads, pressing gears, pinions, bushings, etc. . . . Complete H-W line includes models of 3, 5, 8, 12, 20, 30 and 50 tons capacity . . . For details, consult your nearest industrial supply distributor, or write us.

HEIN-WERNER MOTOR PARTS CORP.
Waukesha, Wisconsin

▲ Mention Item NED-965 when writing ▲

NEW METHOD MASKING NAME PLATES SLASHES TIME



Eliminate the slow inaccurate job of cutting masks by hand. Use Pre-Cut Kum-Kleen Masking Stickers, now available, precision cut to exact size you require. Quickly applied without moistening, adhere to any smooth surface, easily peeled off without leaving a trace, not affected by heat or cold. Now you can apply name plates to products on the production line before painting. Write for samples and catalogue.

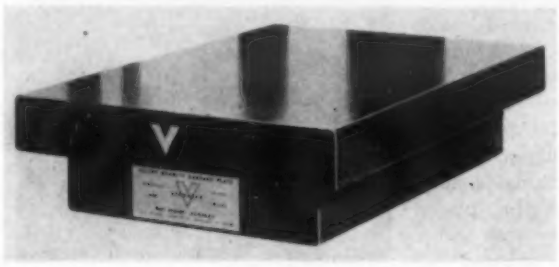
AVERY Kum-Kleen
AVERY ADHESIVES, 451 E. 3rd St. Los Angeles 13, California

New York, Boston, Detroit, Kansas City, Mo. Chicago, San Francisco, Atlanta, Pittsburgh. In Canada, Enterprise Sales, Toronto.

▲ Mention Item NED-966 when writing ▲

GRANITE SURFACE PLATES

Made of black diamond granite, an igneous rock composed of feldspar, quartz and mica, Velsey surface plates are lapped in series to tolerance of .00005-inch surface flatness.



This flatness is never changed by shock or temperature fluctuation. Material is harder than tool steel, consequently it cannot be scratched by instruments. Even if surface is nicked by heavy blow, adjacent material is unaffected. Usual gaging instruments and angle plates would pass over nick without affecting precision of measurements. Plate will not corrode, oxidize, abrade or warp.

Because black graphite is obtainable in massive blocks, surface plates of practically any dimension can be made from it. Standard sizes are available in 12x18, 18x24 and 24x36-inch sizes. Master series includes four clamping lips and surface accuracy is within .00005 inch. Standard series has two clamping lips and surface accuracy is .0001 inch.

When mounted on stands which are available in sizes for regular sizes, plates are fully portable. Stands are equipped with casters and have drawers for tools and instruments. Made by **State Mfg. & Construction Co.**, 1946 N. Dixie Highway, Franklin, O.

▲ Mention Item NED-967 when writing ▲

SAFETY GOGGLES

Of improved design, Duralite safety goggles for those faced with hazards of flying objects have eyecups which are considerably larger in area and more face conforming than previous models. This design provides maximum eye protection, increased ventilation and greater comfort. Shaped accurately to fit contour of right and left eye, cups fit snugly against face and protect eyes from objects striking from sides, top or bottom. Nonconductors of heat and electricity, cups provide wide angle of vision.

New nasal section and enlarged facial contact roll conforms to shape of face. Smooth, round edges of eyecups fit snugly and stay in place. Air channels at edge of eyecups, plus extra side perforations give increased ventilation. Natural draft produced behind lenses reduces possibility of fogging.

Goggle is furnished with either 50-millimeter Super Armorplate lenses in white glass or in Calobar medium, dark or extra dark shades. Six-curve Super Armorplate lenses can also be supplied. Made by **American Optical Co.**, 1492 Mechanic St., Southbridge, Mass.

▲ Mention Item NED-968 when writing ▲

"These Strainers Really Keep Things MOVING"

An important and money-saving feature of Spraying Systems strainers is their extremely large area through screen and body. Full line capacity is handled freely.

The Type TW, shown here, is supplied with cast iron body and Monel Metal screen which may be fine or coarse as required. All-brass or all-stainless construction is also available. Bottom blowout facilitates cleaning without removal from line.

It will pay you to have complete information on Spraying Systems strainers and other products such as spray nozzles and assemblies for almost every application. Write for free Catalog No. 22.

SPRAYING SYSTEMS COMPANY
4029 West Lake Street Chicago 24, Illinois

SPECIALISTS IN THE DESIGN AND MANUFACTURE OF SPRAY NOZZLES

▲ Mention Item NED-969 when writing ▲

HERE'S THE TRAILER OF A Thousand Uses!

In every industry; wherever materials must be handled, you'll find No. 1002 making good! Many thousands are being used by the Armed Forces — thousands more in civil production. For a quality Trailer at a very low price, investigate this full swivel unit that's universal in use. Capacity: 4000 lbs.

Write today for Bulletin giving full details.

EWC TRAILERS
Electric Wheel Co., Dept. ND Quincy, Ill.

▲ Mention Item NED-970 when writing ▲

HUNDREDS of THOUSANDS in Daily Use!

IDEAL Rechargeable Flashlight STORAGE BATTERY

. . . and here's why:

BRIGHTER — Always a "like new" battery!
STEADIER — No gradually fading light!
LONG LIFE — Recharged regularly, can outlast 400 dry cells.
ECONOMICAL — Can save up to $10 a year per flashlight.

Fits standard flashlight cases; takes place of two 1¼" size D dry cells.

GUARANTEED IDEAL Battery Chargers plug into any electrical outlet. Also available connecting to automobile ignition—

PROMPT DELIVERY

Write for Bulletin BB 444

IDEAL Sycamore

IDEAL COMMUTATOR DRESSER COMPANY
1032 Park Avenue ★ Sycamore, Illinois
Sales Offices in all Principal Cities.
In Canada: Irving Smith, Ltd., Montreal, Quebec

▲ Mention Item NED-971 when writing ▲

LOOK INTO GAST ROTARY AIR MOTORS

ALWAYS EFFICIENT. Automatic take-up for wear is a feature inherent in rotary design.

Your own investigations will satisfy you that in many explosion-proof applications and others where compressed air is available, the Gast Rotary Air Motor offers many marked advantages. Write today for your copy of the new descriptive folder, "Industry's Trend to Air for Power."

VARIABLE SPEED easily controlled by varying air pressure.

NO SPARKS, therefore explosion-proof. Meets all safety requirements.

SIMPLE, trouble-free operation. No springs behind vanes, shaft packing does not require adjustment.

CAN'T BURN OUT by overloading—no matter how frequently or suddenly it is stopped.

AVAILABLE. Low in cost, good delivery on essential industrial applications.

COMPACT. Unbelievable power in proportion to small size.

GAST ROTARY AIR MOTORS • COMPRESSORS VACUUM PUMPS

GAST MFG. CORP., 115 HINKLEY STREET, BENTON HARBOR, MICHIGAN

▲ Mention Item NED-972 when writing ▲

QUICK Shut-Off Under High Pressure and Temperature

No. 570
Ring joint 300-pound flange with air cooled stuffing box. Hand lever operated for temperatures up to 1900° F.

A widely diversified line of special R-S Butterfly Valves to meet individual specifications in the high pressure and temperature ranges are in constant production.

Either or both the body and vane can be fabricated from non-corrosive, non-abrasive and acid-resisting metals. Pressure iron castings can be alternated for vital war metals, at considerably lower cost.

For fast, easy control and shut-off of volume and pressure, even under high pressure and temperature conditions, the R-S Butterfly Valve has no equal. Easily adapted to power operation. 15 to 900 psi.
Write for Catalog.

VALVE DIVISION
R-S PRODUCTS CORPORATION
4527 Germantown Ave., Philadelphia 44, Pa.

R-S Streamlined BUTTERFLY VALVES

▲ Mention Item NED-973 when writing ▲

INSULATED RESISTORS

Designed to Match War Standards Specifications

Integrally molded in one operation under laboratory controlled production standards, Stackpole Type CM Resistors in ¼-(RC-10): ½-(RC-21): and 1-watt (RC-30) sizes have been specifically designed to meet the newly issued Army-Navy specifications. The construction of these new resistors is such that they offer an exceptional degree of stability under load—the average change being less than 5% after 1000 hours under test at full load. In addition to having highly satisfactory humidity characteristics well within today's exacting requirements, Stackpole Type CM Insulated Resistors meet up-to-the-minute salt water immersion specifications.

Samples to any required tolerance on request.

Write for STACKPOLE ELECTRONIC COMPONENTS Catalog RC-6
FIXED AND VARIABLE RESISTORS
IRON CORES
LINE, SLIDE, ROTARY ACTION SWITCHES

STACKPOLE
STACKPOLE CARBON COMPANY, ST. MARYS, PA.

▲ Mention Item NED-974 when writing ▲

Does Your NEW Product Need CLUTCHES?

If your new or improved products will benefit from better clutches, we can give you timely help:

As clutch building specialists, with over a quarter century of experience, we study your product designs and recommend the BEST clutches for your particular needs. We then have the facilities to produce those clutches on a basis that will strengthen the competitive position of your products — as to power, control, size, weight, service and price. BRING YOUR CLUTCH PROBLEMS TO US — By sending your specifications to us NOW, your clutch needs can be met without unnecessary delay — when reconversion starts.

SEND FOR THIS HANDY BULLETIN ON POWER TRANSMISSION
Shows typical installations of ROCKFORD CLUTCHES and POWER TAKE-OFFS. Contains diagrams of unique applications. Furnishes capacitity tables, dimensions and complete specifications. Every production engineer will find help in this handy bulletin, when planning postwar products.

Rockford Drilling Machine Division
Borg-Warner Corporation
312 Catherine Street, Rockford, Illinois, U.S.A.

ROCKFORD CLUTCHES

▲ Mention Item NED-975 when writing ▲

ICE CRUSHER-SLINGER

Top-icing of shipments of green vegetables, fish and other perishable produce is accomplished readily with this model 440 ice crusher-slinger. Completely portable, this machine is capable of crushing six 300-pound cakes of ice in 90 seconds and slinging the resulting snow-ice into refrigerator car through flexible discharge hose which is held and directed by operator. Crusher and all working parts of unit are completely enclosed.

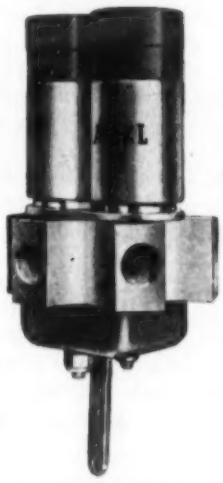
Machine has low hinged ramp and chain type feeder with pushers that take hold of cake of ice and feed it automatically into crusher. No lifting of cake is necessary. Discharge hose may be attached to adjustable spout at either side of machine, thus permitting icing of cars on both sides of island docks without moving machine.

Separate motors operate feeder-conveyor, crusher and slinger. Push button controls are conveniently located on control panel. Equipment can be furnished for operation on direct current, or on 2 and 3-phase alternating current. Made by **Link-Belt Co.**, Dept. NED, 307 N. Michigan Ave., Chicago 1, Ill.

▲ Mention Item NED-976 when writing ▲

SOLENOID SELECTOR VALVE

Offered for controlling either gas or air, this high pressure, solenoid-operated aircraft-quality selector valve features light weight, accelerated action and low current consumption. Designed for operation on up to 1500 pounds per square inch, it is adaptable for remote control aircraft installations located some distance from flight station, such as bomb bay doors. On one such installation, valve opens twin bomb bay doors in 65/100 second as compared with 20 seconds for previously used electrically actuated system.

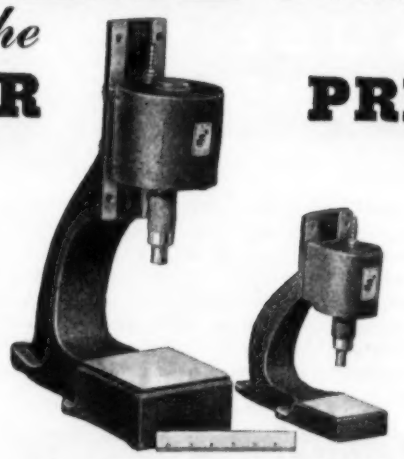


Valve operates with gas, air or hydraulic fluid. Current of 12 amperes at moment of impulse drops automatically to holding pull of .2 amperes at 24 volts direct current. Body is fabricated from dural stock. AN 6227 standard O-ring seals are used throughout. Ports provide for ⅜-inch line sizes. Shaft is furnished for manual operation in case of electrical system failure. Electrical connections are either two-wire or one wire and ground circuits. Terminal posts are protected by plastic caps. Unit withstands continuous duty.

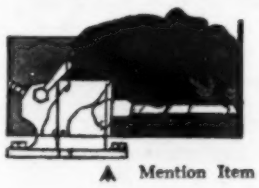
Though originally designed for aircraft applications, this valve is expected to be applied to truck, bus, train and machine tool uses as well as for equipment using high pressure pneumatic systems. Made by **Adel Precision Products Corp.**, 10777 Van Owen, Burbank, Calif.

▲ Mention Item NED-977 when writing ▲

MEAD Presents the AIR PRESS



These new Mead Air Presses deliver 400 and 1200 lbs. pressure respectively on 100 PSI. Handle many staking, crimping assembly and similar operations. CLEARANCE 4" and 7½" respectively. With foot control these presses will speed up countless bench jobs, save muscular effort. Write for new Air Power Catalog—just off the press.



MEAD SPECIALTIES COMPANY
4114 North Knox Avenue
CHICAGO 41, ILLINOIS

▲ Mention Item NED-978 when writing ▲

FORGED FLAT SPRINGS

• • • MADE IN ANY DESIGN FOR HEAVY DUTY APPLICATION

Heavy, hot formed springs require highly specialized equipment and processing operations. Consequently, one entire plant at Muehlhausen is devoted exclusively to the manufacture of hot formed springs. Wire or write your needs today on any size—coiled or flat—to meet any working condition. MUEHLHAUSEN SPRING CORPORATION, 550 Michigan Ave., Logansport, Ind.

MUEHLHAUSEN SPRINGS
EVERY TYPE AND SIZE

▲ Mention Item NED-979 when writing ▲

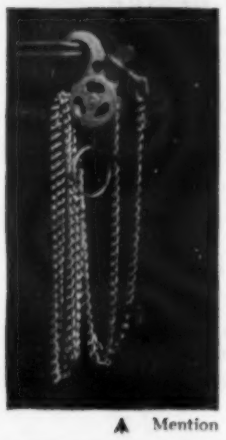
These typical applications are shown to suggest how you may employ Kennametal—the metal that masters wear—at critical points in your products and production machinery. Kennametal is available in a variety of standard shapes, and it can be accurately molded into many special forms. Particulars are yours for the asking.

KENNAMETAL
SUPERIOR CEMENTED CARBIDES
KENNAMETAL Inc., LATROBE, PA.

▲ Mention Item NED-980 when writing ▲

Protect Precious Manpower with

MONARCH ONE MAN CAR DOOR OPENERS!



No strained muscles
No slips or falls
No broken arms, legs or mashed fingers
No fatalities
No time wasted
No "gangs" needed
No time lost

One man can open the most binding, balky box car door with the Monarch Car Door Opener. Get greater safety . . . . speed loading and unloading schedules . . . order an ample supply to fill your needs today!

PRIORITY NEEDED $17.50 EACH

MINING SAFETY DEVICE CO.
Dept. NE, Bowerston, Ohio

▲ Mention Item NED-981 when writing ▲

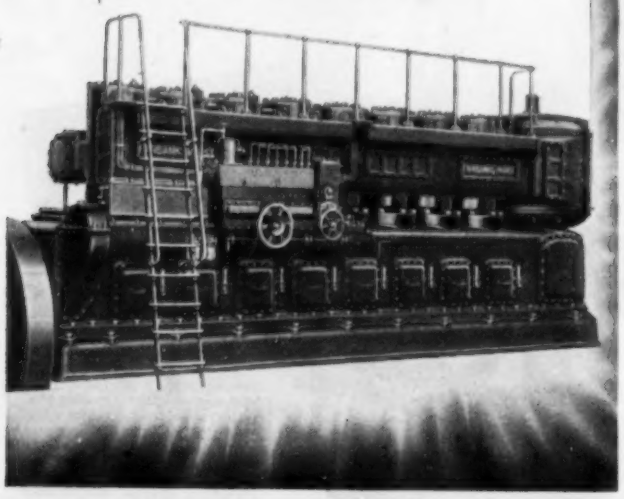
Staying POWER!

Fairbanks-Morse Diesels have repeatedly proved their staying power . . . their ability to deliver low-cost, dependable power continuously, year after year, with consistently low fuel and maintenance costs.

Built on the 2-cycle principle, Fairbanks-Morse Diesels have fewer moving parts and are comparatively simple in design.

If you need more power or lower-cost power, have a Fairbanks-Morse engineer study your problem. There is no obligation. Write Fairbanks, Morse & Co., Fairbanks-Morse Bldg., Chicago 5, Ill.

BUY MORE WAR BONDS



Fairbanks-Morse
A name worth remembering

Diesel Locomotives • Diesel Engines • Generators
Motors • Pumps • Scales • Magnetos • Stokers
Railway Motor Cars and Standpipes • Farm Equipment

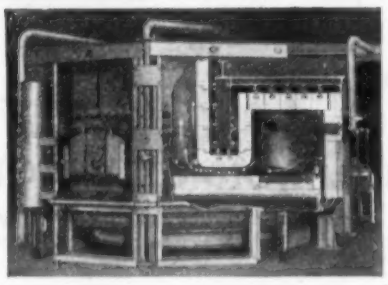
▲ Mention Item NED-982 when writing ▲

POWER POLISHING WHEEL

Removal of burrs, preparing metal surfaces, work on rubber parts and many other operations are handled readily with this power brush. Cutting rate is four times as great and brushing life is three times that of fine wire brushes previously used for this work. Brush is designated as Monitor brush No. 1409-S-22. It is 12-inch monitor section filled with .005-inch power brush wire and has 1¼-inch arbor hole. It may be used on aluminum, brass and other ductile metals for removing burrs without damage to adjacent surfaces of part. It may also be used on hardened and unhardened steel parts. Uniform cutting ability is maintained throughout its life. Fast action reduces operator fatigue. Fast cutting rate is said to be smoother than slower cutting brushes. Made by **The Osborn Mfg. Co.**, 5403 Hamilton Ave., Cleveland, O.

▲ Mention Item NED-983 when writing ▲

FORGING FURNACE



Outstanding feature of this rotating hearth forging furnace with depressed roof and center venting stack is fact that waste gases are allowed to escape from furnace chamber at hearth level. All vent gases are carried away at 2300 degrees Fahr. with resultant 25 per cent savings in fuel as compared with units where 3000 degree Fahr. gases are vented from top center of roof. Hottest gases are brought into contact with stock in furnace.

Depressed ring construction forms ring type furnace chamber which affords control over entire heating range by zoning the chamber. No heating space is lost because center vent occupies center portion of furnace. No inside sand seal is required and radial center bearing holds table in position. Furnace roof is suspended from sturdy steel frame with lining built up of interlocked tiles and sealed with cement. This arch construction is designed for furnaces as small as 9 feet in diameter and is adaptable to all types of rotating table furnaces. Made by **Johnston Mfg. Co.**, 2825 E. Hennepin Ave., Minneapolis 13, Minn.

▲ Mention Item NED-984 when writing ▲

DO YOU KNOW?

"The Care and Handling of Micro-Instrument Bearings" is title on 16-millimeter sound motion picture released for instruction of industrial employes. Manufacturing and inspection technique employed on small bearings for aircraft instruments are shown. Film loaned free for showing to manufacturers for training purposes for limited time. Write to New Departure, Bristol, Conn.

▲ Mention Item NED-985 when writing ▲

STOP THOSE BUMPS

The CUSHION-TORQUE developed by KANTI-LEVER Couplings absorbs the impact of blows imposed upon your Motors, Gears, Speed Reducers, Ball Bearings, etc. by sudden or reversing loads: likewise it cushions the torsional and radial vibration which in conjunction with impact blows are responsible for most machine failures. Since these are more prevalent when operating long hours at a high rate of production, the KANTI-LEVER is of correspondingly greater value to you. No other Coupling is like the—

Kanti-Lever Coupling

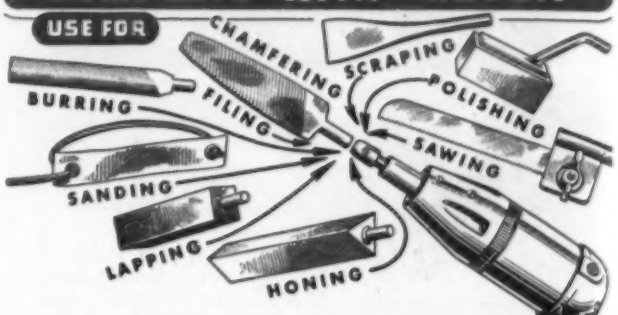
It has a circular series of radial resilient Cantilevers made from 200,000 lb. steel that operate in slots, the tapered sides of which decrease the leverage on the Cantilevers under increased load and eliminate backlash. End thrust is impossible. Special endplay available up to four inches with no increase in the Cantilever stresses. Outer periphery can be used as a Brake Drum for quick-stopping machinery. Over 3,000,000 Horse Power in service. SEND FOR BULLETIN No. 28-D.

BROWN ENGINEERING CO.
129 NORTH 3RD ST. READING, PENNA.

▲ Mention Item NED-986 when writing ▲

No Other Tool Like H&H Reciprocating Action

PORTABLE Electric TOOL
★ COMPLETE WITH MOTOR ★



Motion is "in and out"—not spinning or rotary. Tool is portable—carry it anywhere—five pounds—easy to handle. Self contained. Ready to plug into any 110 volt electric outlet. Use it to work on any metal, wood, plastic or other materials that may be filed, sawed or polished. Delivers 1000 short, accurate strokes per minute, much faster than hand methods, no chattering. Complete line of files, scrapers, hones and other accessories available. Change accessories in 20 seconds. Used in largest plants and small shops.

Send for catalog

H&H RESEARCH CO.
429 MARQUETTE BLDG • DETROIT 26, MICH.

▲ Mention Item NED-987 when writing ▲

WILSON Pulsafeeders
(PROPORTIONING PUMPS)
Guaranteed better than 1/8 of 1% accurate

Eminently superior, almost infallible flow-controls to handle liquids of any nature in any pre-determined quantity from one cubic centimeter to four hundred or more gallons per hour. Accuracy, in most instances, is guaranteed at better than ⅛ of 1% for single or multiple liquids. Flexible and adaptable, they satisfy an almost limitless range of requirements.

Let us send you details of their packless, positive-displacement piston action . . . of the absence of packing glands and breakable diaphragms . . . freedom of contact between working parts and flowing liquids. Let us tell you how they will meet your specific requirements for capacity, accuracy, economy, durability and dependability, as those requirements apply to chemical proportioning, food and other processing, laboratory work, water and sewage treatment . . . or to the handling of problem liquids such as acids, volatiles, slurries, etc., in mono- or multi-flow.

Literature on request.

WILSON CHEMICAL FEEDERS, Inc.
202 CLINTON ST. Est. 1923 BUFFALO 4, N. Y.

▲ Mention Item NED-988 when writing ▲

Molded

SHAPES AND FORMS
In cellular rubber!

AVAILABLE NOW—cellular rubber specially compounded and molded to meet your exact requirements. Three types . . . SPONGEX*, with interconnecting cells. CELL-TITE* *hard* or CELL-TITE *soft* with individual cells. May be made resistant to gasoline, oil, corrosive vapors. Use for sealing, insulating, sound deadening, vibration elimination, weather-stripping, cushioning, gasketing. Order now for industrial needs.

*TRADE MARK REGISTERED

Sponge Rubber Products Co.
131 DERBY PLACE, SHELTON, CONN.
World's Largest Manufacturer of Cellular Rubber Products

▲ Mention Item NED-989 when writing ▲

MAKE MANPOWER MORE PRODUCTIVE...

Add Faster Handling Methods with "WELD-BILT" Equipment

"Weld-Bilt" experience and knowledge of materials handling methods and equipment has added valuable *hours* to production operations in many plants — by cutting time and labor in handling methods. A careful survey of *your* operations, adaptation of standard equipment or designing of new equipment, may promise similar savings for you! Write for details.

"Weld-Bilt" Hydraulic Lift Truck. Handles heavier loads easier. Built for strength, mobility and durability, Exclusive *Horizontally-Mounted* hydraulic unit. Capacities, 2500 to 10,000 lbs.

WEST BEND EQUIPMENT CORP.
220 WATER STREET, WEST BEND, WISCONSIN
MATERIALS HANDLING ENGINEERS
Hydraulic Lift Trucks, Two and Four-Wheel Trucks, Tiering Machines, Skid Platforms, Barrel Trucks and Racks, Portable Elevators and Special Equipment.

▲ Mention Item NED-990 when writing ▲

Above: Small shutter parts being honed on Sunnen "MA" Precision Honing Machine

At Left: Navy photographer using Fairchild F56 Precision-Built Aerial Camera with 8¼" focal length for oblique photography.

ACCURACY IN ACTION!

—made possible by

SUNNEN HONING

For high precision work on small vital parts, Fairchild uses *Sunnen honing*. After grinding, these parts are honed to extreme accuracy — often within .0001". The inside surfaces of these diameters must be polished to a super-smooth finish to reduce friction on bearing surfaces — for these parts must operate faultlessly at temperatures from −70° F. to 165° F.!

Remember — the Sunnen Model "MA" Precision Honing Machine handles any diameter from .185" to 2.625" with a *guaranteed* accuracy of .0001" and a finish of 2 to 3 micro inches.

Write for new bulletin giving complete information!

The coveted Army-Navy "E" waves over the Sunnen plant — evidence of the important part Sunnen equipment is playing in the war effort.

SUNNEN PRODUCTS CO., 7931 Manchester Ave., St. Louis 17, Mo.
Canadian Factory: Chatham, Ontario

SUNNEN

Typical Jobs

Aircraft Hydraulic Brake Cylinder. Honing 3 times faster than lapping — and gave a straighter hole.

Aircraft Piston Pin. Sunnen honing is twice as fast and gives a cleaner, better looking pin.

Aircraft Carbureter Operating Valve Sleeve. Sunnen honing eliminates distortion from assembling operation.

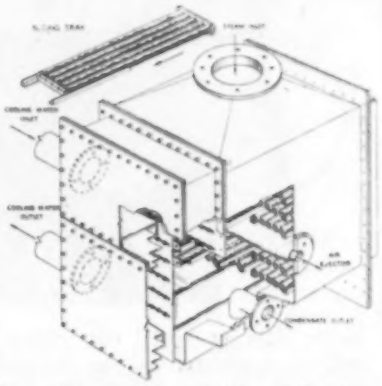
Aircraft Valve Tappet Roller. Honed after grinding to give 100% bearing surface.

Hydraulic Control Bushing. Honing gives straight round hole after rough reaming.

▲ Mention Item NED-991 when writing ▲

STEAM CONDENSER

Having capacity increase 100 per cent greater than that of conventional units of same physical size, this Dawes steam condenser requires but one-third of overall space of units of similar capacity. Light in weight, it is designed for easy, quick cleaning and maintenance.

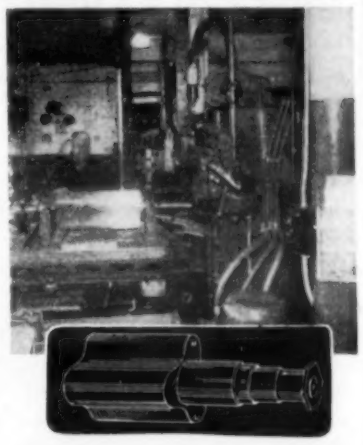


Design feature is type and arrangement of tubes. They are one-third as long as conventional units and employ extruded surface construction to obtain added capacity. Tubes are easily removed and cleaned. Average workbench provides adequate area for re-tubing tube trays after removal. Tubes are mounted in convenient "file-cabinet" arrangement in removable trays. Standby trays may be used to effect immediate replacement if needed.

Multiple installations of these units may be used in factory operations because their small size permits use of standby units to provide uninterrupted service, even on standard cleaning cycle. Developed by Contract Engineering, 1023 Russ Bldg., San Francisco, Calif.

▲ Mention Item NED-992 when writing ▲

PLANER CONTROL



Planing of curved surfaces such as on gear-like impellers for water pumps, gas exhausters and blowers, as shown, is speeded through application of Turchan Follower attachment to planer. The three surfaces are finished to tolerance of .001 inch in one-seventh of time required by hand methods. Planing of part, which measures approximately 1 foot in diameter and 3 feet in length, is performed in three stages by following template of one-third of curved surface. Part is rotated as each third is completed. No handwork is required. Attachment made by **Turchan Follower Machine Co.**, 8261 Livernois Ave., Detroit 4, Mich.

▲ Mention Item NED-993 when writing ▲

DO YOU KNOW?

Mathematical problems which would take several years to work by conventional methods are being solved in a few days by recently perfected differential analyzer. This machine employs mechanical elements for addition, subtraction, multiplication and division, and electro-mechanical elements for more complex functions. Almost any physical phenomena can be expressed in terms of differential equations which are handled in multiples, simultaneously on this machine. Developed by General Electric Co., Schenectady 5, N. Y.

▲ Mention Item NED-994 when writing ▲

MUSCLE OR MOTOR POWER?

YOUR Truck-Man will out-do any push and pull, muscle propelled truck. Designed for moving skidded inter-plant loads. Gasoline powered. Hydraulic lift. Easily handled. Used in widely diversified industries—large and small—from Maine to California. *Send for bulletin.*

truck-man

ONE TON CAPACITY
$675.00
F.O.B. Jackson, Michigan

a product of
YARD-MAN, INC.
1414 WEST GANSON
JACKSON · MICHIGAN

▲ Mention Item NED-995 when writing ▲

Safront RESISTANCE WELDER CONTROL

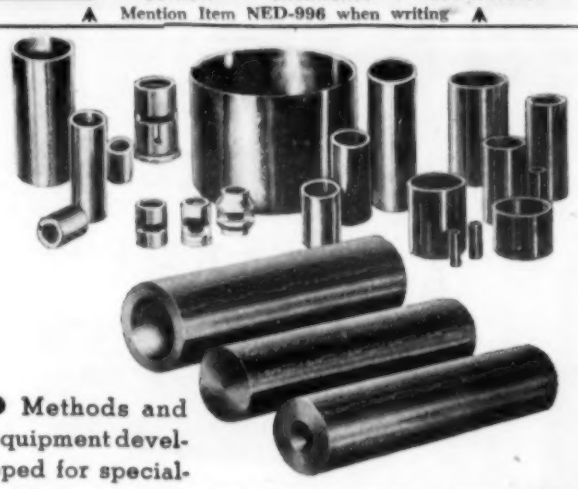
18 NEMA STANDARD TYPES OF WELD AND SEQUENCE TIMERS

Automatic time welder, at top, controls SQUEEZE, WELD, HOLD and OFF periods. At left, the same timer with panel rotated forward to expose operating parts and separable connector.

WRITE for Class 8991 Safront Bulletin. Address Industrial Controller Division, Square D Company, 4041 North Richards St., Milwaukee, Wis.

SQUARE D COMPANY
DETROIT · MILWAUKEE · LOS ANGELES

▲ Mention Item NED-996 when writing ▲

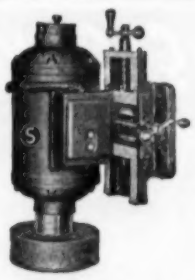


● Methods and equipment developed for specialized war production bring to Bunting Bronze Standardized Bearings and Precision Bars qualities never before found in such products. Completely finished bearings are available from stock for all applications in machine tools, electric motors and general industrial machinery. Ask your wholesaler. Write for catalog. The Bunting Brass & Bronze Company, Toledo 9, Ohio. Warehouses in principal cities.

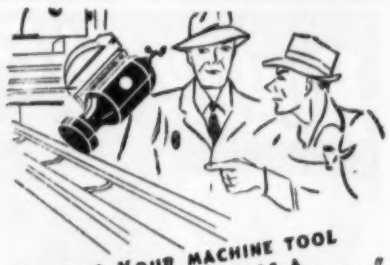
10

Bunting
BRONZE BUSHINGS ☆ BEARINGS ☆ PRECISION BRONZE BARS

▲ Mention Item NED-997 when writing ▲

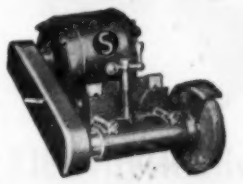


Grinder with Vertical and Horizontal feeds. Available with or without feeds as preferred. Integral mounting pad for rigidity.

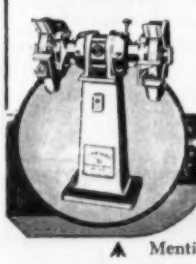


"RIGHT! YOUR MACHINE TOOL CAN NOW SERVE YOU AS A (STANDARD) GRINDER TOO."

YES SIR! You can now make your machine a "double purpose" machine, the "Standard Way". STANDARD VERTICAL SPINDLE GRINDERS and STANDARD INTERNAL-EXTERNAL GRINDERS can be easily mounted on your Planers, Boring Mills, Shapers, Milling Machines, etc., giving you added profits!



Vertical Spindle Grinders range from: ½ H.P. to 15 H.P. for straight or cup wheels up to 16" diameter. Also for cylinder wheels, or segmental wheel chucks. Speeds: 1200, 1800, and 3600 R.P.M. Internal-External Grinders have interchangeable quill for internal grinding up to 24" deep.



Write for *Your* copy of Catalog 43, today.

The STANDARD ELECTRICAL TOOL Co.
CINCINNATI · 4 · OHIO
2488 River Road

▲ Mention Item NED-998 when writing ▲

EC&M OIL-IMMERSED CUBICLE-TYPE STARTERS

for 220-550 VOLT SYNCHRONOUS MOTORS

Standard Starter

● These are completely wired, totally enclosed units containing rheostat, meters, and all of the essential features for automatic starting of synchronous motors.

Direct current is applied to the field by a frequency relay pulling the motor into synchronism automatically. Complete details are given in Bulletin 1075-A. Ask for copy.

THE ELECTRIC CONTROLLER & MFG. CO.
2698 E. 79TH ST. CLEVELAND 4, O.

▲ Mention Item NED-1001 when writing ▲

New Telephone RELAY by GUARDIAN

Series 405 D. C. (Long)

Available also in Series 415 (short)

★ This Telephone Type Relay by Guardian—series 405 D.C.—is an "all-purpose" unit that may be engineered to fit almost any relay application.

Flexible in operation, series 405 may be built to operate at high speed, or may employ a copper slug time delay on attract or release. Supplied with any combination of basic switches up to 10 pole, double throw. The armature hinges on a pin type bearing, has an adjustable residual—fixed residual optional. Withstands vibration resistance in excess of 60 c. per second at an excursion of .065" except in highly sensitive applications. Often employed in plate circuits of phototubes with reasonable number of contact switches. Write for Bulletin 405.

GUARDIAN ELECTRIC
1626-B W. WALNUT STREET CHICAGO 12, ILLINOIS
A COMPLETE LINE OF RELAYS SERVING AMERICAN WAR INDUSTRY

▲ Mention Item NED-1002 when writing ▲

ROUND-THE-CLOCK

Model 460, 1½ H. P.

Plant Maintenance with INVINCIBLE

HUNDREDS of Invincible Vacuum Units are serving continuously, 24 hours a day, month after month. These rugged, powerful machines collect dirt, litter and scores of industrial materials—thus speeding production, reducing rejects, and improving morale. They clean floors, walls, beams, tool bins, switchboards, machines and other hard-to-reach spots. Many models from ½ H.P. up.

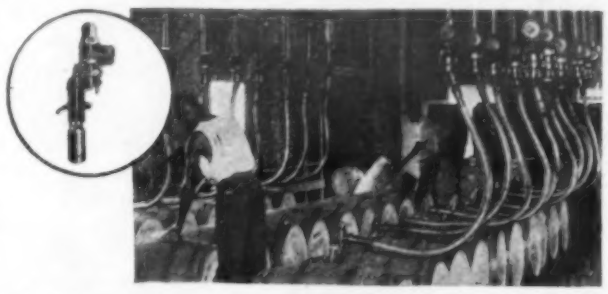
ASK FOR THE "100,000" BULLETIN

INVINCIBLE VACUUM CLEANER MFG. CO.
DOVER, OHIO

▲ Mention Item NED-1003 when writing ▲

AUTOMATIC BARREL FILLER

Equipped with monel metal tripper, this improved Penflex automatic drum and barrel filler is claimed to give 40 per cent faster flow than previous models. It is designed to

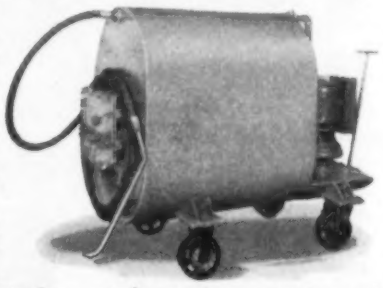


handle light or heavy oils, either hot or cold and under pressure or gravity; volatiles like alcohol or high octane gasoline; high density liquids like viscous residues and many other solutions that will not attack metal. Simple adjustments are set for viscosity of liquid to be handled and level desired in drum, barrel, tank, carboy or other container. Unit is automatic in action. Flow stops when desired level is reached and loss from overflow is eliminated. Single attendant can handle several units. Illustration shows battery of fillers in action at large alcohol plant. Small inset shows filler. Made by **Pennsylvania Flexible Metallic Tubing Co.**, 7203 Powers Lane, Philadelphia 42, Pa.

▲ Mention Item NED-1004 when writing ▲

SUMP CLEANING UNIT

Equipped with nozzle for removing coolant sludge, chips and other materials from machine tool sumps, this Hydro-Scavenger is also adaptable for wet or dry vacuum cleaning. Powerful suction is developed which is capable of lifting cast iron borings 15 feet through flexible hose furnished with unit. Typical of uses are cleaning sand, bolts, cotter keys and parts from oil drums; skimming tops of pickling vats; cleaning scraps, trimmings or parts from airplane wings sections and other inaccessible places; portable vacuum processing; removal of dust from factory beams and floors and cleaning borings from production machines.



Unit consists of two-compartment welded alloy or copper-steel tank, lower compartment serving as jet circulating water tank. Upper compartment is sludge receiver in which vacuum is maintained and from which air is drawn into lower compartment through check valve and aspirator or nozzle box. Power is furnished by ball bearing motor direct-coupled to centrifugal pump.

Entire assembly is mounted on floating hub, Alemite lubricated, rubber tired wheel casters for portability. Front casters are ball bearing swivel type and rear casters stationary. Coupler is provided for hitching unit to power truck or tractor. Standard equipment includes 25 feet of 1¼-inch reinforced vacuum hose. Float switch in upper tank is safety feature. Sizes are 100, 200 and 300 gallons. Made by **Whittington Pump & Engineering Co.**, Dept. J, 225 S. Meridian St., Indianapolis 4, Ind.

▲ Mention Item NED-1005 when writing ▲

How to Stop Leaks at Flanged Joints

For flanges that refuse to meet or are out of alignment you have a ready remedy in Smooth-On No. 1 Iron Repair Cement—and will often save costly replacements. You use Smooth-On No. 1 like putty, building up the defective surfaces—often merely applying gaskets coated with Smooth-On. No heat required. As the repair hardens, Smooth-On expands slightly, making a lasting tight joint.

Smooth-On—this year half a century old—is the engineer's and maintenance man's indispensable aid. Good for hundreds of repair jobs around the plant—stopping leaks, sealing cracks, tightening loose parts. Keep a can handy for both emergency and routine repairs. In 1-, 25- and 100-lb. sizes at your supply house—if they haven't it contact us directly.

FREE THIS HANDBOOK SHOWS HOW

The famous 40-page, pocket size Smooth-On Repair Handbook (over 1,000,000 now in circulation) gives complete instructions for sealing flanged joints and making dozens of other quick, durable repairs to plant and home equipment. Just send us a postcard.

SMOOTH-ON MFG. COMPANY
DEPT. 10, 570 COMMUNIPAW AVE.
JERSEY CITY 4, N. J.

Do it with SMOOTH-ON

▲ Mention Item NED-1006 when writing ▲

TAYLORCRAFT Aviation Corp. speeds production, prevents spoilage, uses fewer jigs, improves quality, by using the Hansen Tacker for tacking plywood in airplanes.

Ribs are assembled in a steel jig with retractable guide pins. Staples driven into assembly parts hold gussets, cap strips and trusses while glue dries. This is considerably faster and more economical than former method.

WHAT ARE YOUR TACKING OR FASTENING PROBLEMS? Submit samples and details

A. L. HANSEN MFG. CO.
5164 Ravenswood Ave. CHICAGO 40, ILL.

▲ Mention Item NED-1007 when writing ▲

Water Injection Corrosion Solved by Romec

• Corrosion of Water Injection Pumps has been caused by electro-chemical action due to the water solution contacting two dissimilar metals. This has required the development of special internal insulation as well as external contact insulation.

Write For Illustrated Folder

THE ROMEC PUMP COMPANY
110 ABBE ROAD • ELYRIA, OHIO • U. S. A.

Manufacturers of FUEL PUMPS—Electric and Engine Driven. TRANSFER PUMPS, Booster Pumps, Tank-Mounted Fully Submerged Pumps, VACUUM PUMPS, Pressurizing Pumps. OIL PUMPS, Glycol and Circulating Pumps.

▲ Mention Item NED-1008 when writing ▲

Liberator of Motor Burnouts

To get relief from motor burnouts, always buy motors with built-in Klixon Motor Protectors. They're available as a built-in feature with A.C. motors all sizes; D.C. motors up to 30 volts.

Here's how they insure full motor life . . . when a motor overheats and becomes dangerously hot, the Klixon Protector snaps the power "off" thus preventing a possible burnout. Then when the motor cools sufficiently, it turns the power "on" again either automatically or by manual reset depending on the type of protector you specify.

Klixon protection is reliable . . . it protects motors year in and year out, starting and stopping a motor every time it overheats until the trouble is remedied.

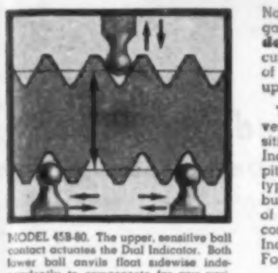
Guard against motor burnouts . . . specify Klixon Motor Protectors with every motor you buy. They're built into the motor by the motor manufacturer providing a tested and proven combination of protector matched to the motor.

KLIXON MOTOR PROTECTORS

SPENCER THERMOSTAT CO., ATTLEBORO, MASS.

▲ Mention Item NED-1009 when writing ▲

MODEL 45B-100. The upper, sensitive roller contact actuates the Dial Indicator.



MODEL 45B-80. The upper, sensitive ball contact actuates the Dial Indicator. Both lower ball anvils float sidewise independently to compensate for any variation in lead.

No conventional type of gage, whether ring gage or roller-type snap gage, can tell you so **definitely** and so **quickly** the degree of accuracy of a pitch diameter as these two types of Dial Indicator Gages. Neither depend upon the uncertain sense of touch.

The roller type tells more than the conventional roller snap gage because the sensitive upper roller contact, reveals on the Indicator, just **how much** and **where** the pitch diameter may be wrong. The ball type simulates the three-wire method, but is faster. It is accurate to a tenth of a thousandth. Either type is incorporated in the adjustable Dial Indicator Gage shown below. For details write—

TWO FULL COLOR FILMS (With Sound) No 1 DIAL INDICATORS No 2 DIAL INDICATOR GAGES. 30 minutes each. For instruction and training. For showing write →

FEDERAL PRODUCTS CORPORATION
PROVIDENCE 1, RHODE ISLAND

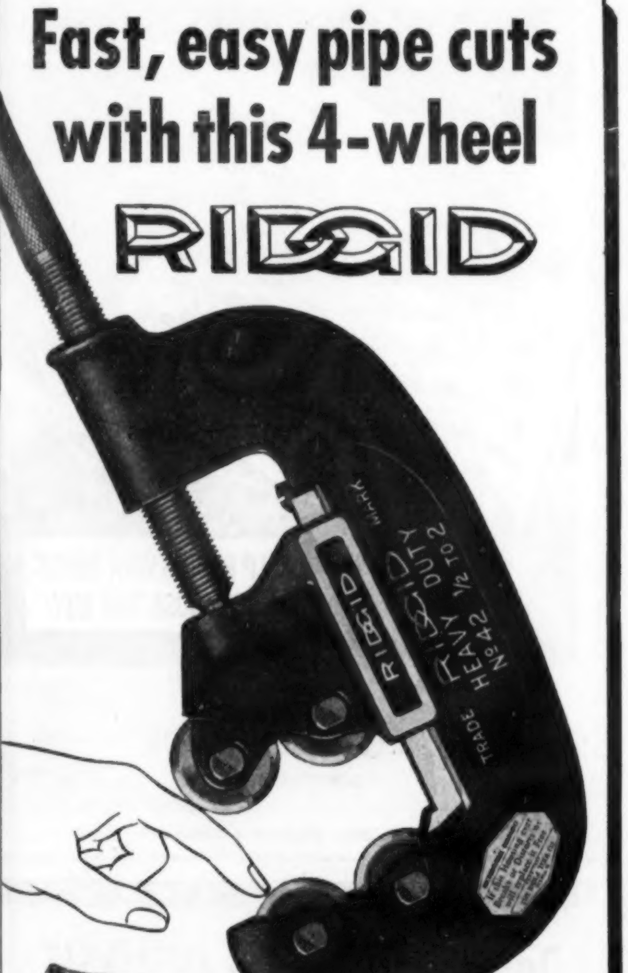
CHICAGO • CLEVELAND • DETROIT • DALLAS • HARTFORD • HOUSTON • INDIANAPOLIS • LOS ANGELES • MEMPHIS • MILWAUKEE • MINNEAPOLIS • MONTREAL • NEW YORK • PHILADELPHIA • PITTSBURGH • ROCHESTER • SAN FRANCISCO • ST. LOUIS • TORONTO • WINDSOR

★ FEDERAL ★

PRECISION MEASURING INSTRUMENTS

▲ Mention Item NED-1010 when writing ▲

Fast, easy pipe cuts with this 4-wheel RIDGID



Regular RIDGID Cutter has fast cutting thin-blade wheels.

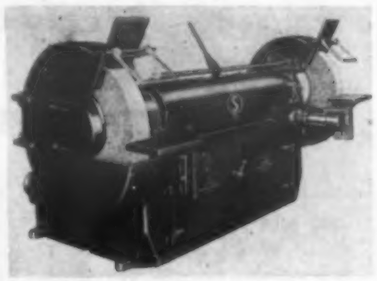
Cuts cleanly with a quarter turn

● In tight places it's a wonder. Short handle — and 4-wheels mean swift clean easy cuts, which you'll enjoy also where there's plenty of room to work. A beautifully balanced husky cutter that doesn't fool around, the stout frame making the special heat-treated steel wheels always cut true. Two sizes: No.42, ½" to 2"; No.44, 2½" to 4". Buy it for better cutting and long service—at your Supply House.

RIDGID
WORK-SAVER PIPE TOOLS
THE RIDGE TOOL COMPANY • ELYRIA, OHIO, U. S. A.

▲ Mention Item NED-1011 when writing ▲

SNAGGING GRINDER

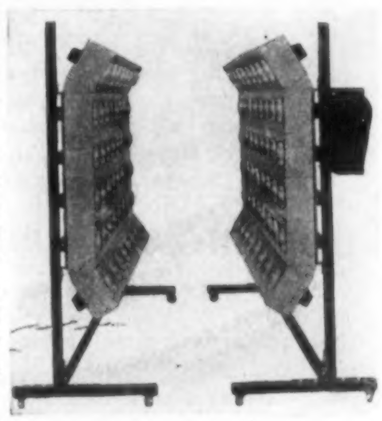


Adaptable for heavy duty grinding operations, No. 75 double end snagging grinder has speeds of 1200, 1375, 1675 and 1950 revolutions per minute to maintain desired surface speed of 9500 feet per minute on the two 30 x 5-inch resinoid bond wheels. Interlocking speed control prevents overspeeding of wheels. Power is transmitted through multiple V-belts and shaft coupling permits convenient renewal of belts in case of wear.

Ball bearing, 30 horsepower motor is adjusted by integral ratchet wrench to place proper tension on V-belts. Boiler plate steel guards are easily adjusted to wheel wear through rack and pinion movement and built-in ratchet wrench. Equipment includes adjustable spark breakers and 6 x 11-inch work rests. Wheel flanges are 15 inches in diameter and overall spindle length is 92 inches. Made by **The Standard Electrical Tool Co.**, 2488 River Road, Cincinnati 4, O.

▲ Mention Item NED-1012 when writing ▲

INFRARED EQUIPMENT



Even application of energy and provision for variation in watts density or British thermal unit input is accomplished through selection of various sizes of infrared lamps in this line of tunnels which are designed for baking, drying, preheating and dehydrating operations. Construction affords maximum utilization of power.

Line consists of models 40-000, 43-000, illustrated, and 47-000. First two models are practically identical in construction and utilize reflector type sources. Gold plated reflecting surfaces are positioned flush with face of sources. Gold surface reflects infrared energy even though fogged or dirty. Sources on 40-000 equipment are on centers of 6-9/32 inches and source centers of 43-000 model are 8¼ inches. Both models accommodate 125, 250 and 375-watt, 120 volt lamps. Various contour designs of banks of practically any number of lamps can be assembled and mounted to fit needs of installation.

Model 47-000 equipment uses clear sources and gold plated reflectors. High watts density is possible since lamps ranging from 125 to 1000 watts can be used. Lamp centers are 11 inches and reflectors are 11 inches square. There is no variation of intensity of infrared energy between two banks of opposed units.

Ventilation is provided for bases of infrared sources and wiring channels. They are shielded from reflected energy. All standard models are equipped with casters to afford mobility. Angle separators can be inserted between sections to provide variety of sizes and shapes of assemblies. Made by **The Fostoria Pressed Steel Corp.**, 1240 Harris Rd., Fostoria, O.

▲ Mention Item NED-1013 when writing ▲

Better *Marking* Dies!

ROLLER DIES
SHANK DIES
FLAT DIES
SEGMENT DIES
EMBOSSING DIES
SPECIAL DIES

Forty years of die making experience plus facilities for prompt deliveries make Pannier Bros. Stamp Co. a dependable source for all Marking Die needs. From the simple trade-mark and solid dies to the complicated radial and roller dies with steel type or logotype inserts, there is a Pannier Marking Die adapted to every press and stamping machine use. Send us your specifications for quotation!

Embossed Tags; Stencils; Rubber Dies, Stamps, Steel Type, Stamps, Dies; Embossing Equipment; Marking Ink.

MASTER PANNIER MARKERS

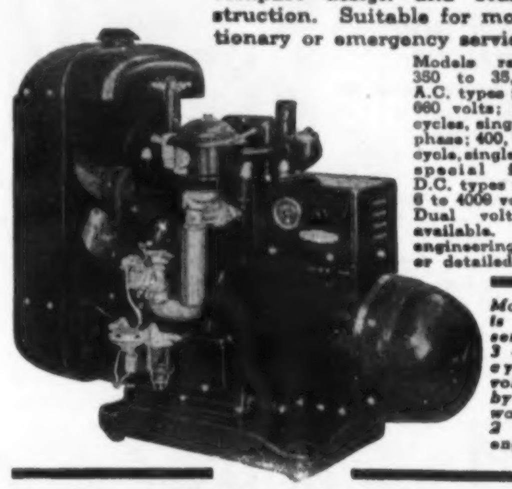
PANNIER BROS. STAMP CO.
301 PANNIER BLDG., N. S., PITTSBURGH, PA.

▲ Mention Item NED-1014 when writing ▲

ELECTRICITY
For Any Job—Anywhere

ONAN ELECTRIC GENERATING PLANTS supply reliable, economical electric service for industrial uses, as well as for scores of other general applications.

Driven by Onan-built, 4-cycle gasoline engines, these power units are of single-unit, compact design and sturdy construction. Suitable for mobile, stationary or emergency service.



Models range from 350 to 35,000 watts. A.C. types from 115 to 660 volts; 50, 60, 180 cycles, single or three-phase; 400, 500 and 800 cycle, single phase; also special frequencies. D.C. types range from 6 to 4000 volts. Dual voltage types available. Write for engineering assistance or detailed literature.

Model shown is from W2C series, 2 and 3-KW, 60-cycle, 115 volt; powered by Onan-built water-cooled, 2-cylinder engine.

D. W. ONAN and SONS
2602 Royalston Avenue
Minneapolis 5, Minn.

▲ Mention Item NED-1015 when writing ▲

THIS NEW BOOKLET TELLS HOW TO AVOID TWISTING OFF SCREWS, STUDS AND BOLTS

Make shearing a thing of the past! Save time by eliminating preventable damage caused by overtightening! It's no trick at all when you have the proper tables and graphs on relative shearing torques — and apply this information in use of handy, accurate Apco Mossberg Torque Tools.

This booklet contains newest information on approximate torques required to twist off screws at root diameter made of materials with a tensile strength of 100,000 lbs. per square inch; shearing diagram; formulae for checking and adjusting torque tools; tables for determining recommended limits, and general range of torque for your product.

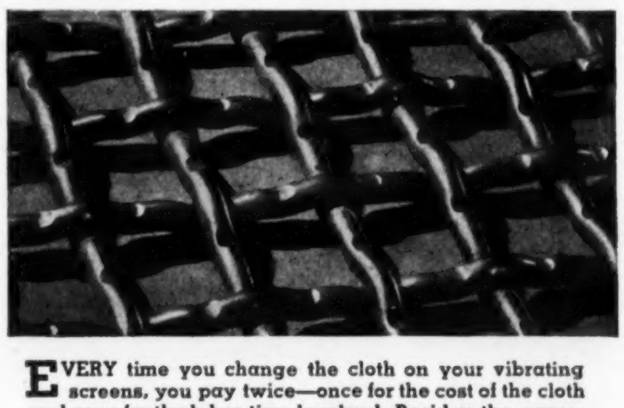
FREE

Write today for "Facts and Figures on Torque Tools". APCO MOSSBERG COMPANY, 161 Lamb Street, Attleboro, Massachusetts. You will receive this helpful booklet without cost by return mail.

APCO MOSSBERG CO.
161 LAMB STREET
ATTLEBORO, MASS., U. S. A.

▲ Mention Item NED-1016 when writing ▲

"This Screen Cloth assures the LOWEST COST PER TON HANDLED"



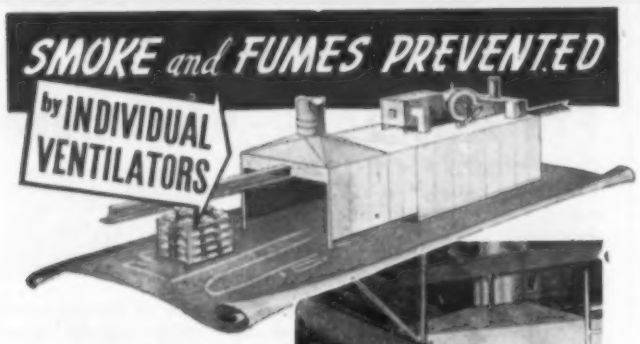
EVERY time you change the cloth on your vibrating screens, you pay twice—once for the cost of the cloth and once for the labor-time involved. Besides, the screen is out of service while the cloth is being changed. Next time, put in Improved Super-Gyraloy—the special abrasion-resisting cloth made from the hardest steel, by far, ever used in Screen Cloth. It lasts longer—assures the lowest cost per ton handled. Available in sizes .023" to 1" diameter—square opening (double crip or lock crimp), rectangular opening, flat top, non-spreader and non-blind weaves. Full facts in Bulletin 113-NED-2. A copy is yours for the asking.

For Material Aid in Materials Handling It's ROBINS

ENGINEERS • MANUFACTURERS • ERECTORS
ROBINS CONVEYORS INCORPORATED
Founded in 1896 as Robins Conveying Belt Co.
PASSAIC • NEW JERSEY
MATERIALS HANDLING MACHINERY

▲ Mention Item NED-1017 when writing ▲

SMOKE and FUMES PREVENTED by INDIVIDUAL VENTILATORS



PRODUCTION STEPPED UP

These ventilating hoods effectively remove smoke and fumes before they can ever get into the foundry. Convinced that "an ounce of prevention is worth a pound of cure" KOCH engineers designed *individual ventilating hoods* for six KOCH Core Ovens installed in a large midwestern foundry.

Smoke and fumes are whisked up and out the instant the oven doors are opened. Results are safer, healthier working conditions . . . increased efficiency and production.

Get the full story of this and other unusual KOCH installations—phone, wire or write today!

GEORGE KOCH SONS, INC. Industrial Equipment 2124 PENNA. ST., EVANSVILLE 4, IND.

▲ Mention Item NED-1018 when writing ▲

How General Silentbloc Rubber Parts Improve a Product and Cut Costs

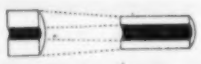
WHEN a simple rubber-and-metal part can improve your product and may also cut manufacturing costs—*that's news.*

Here are three ways General Silentbloc parts offer this double advantage:

1. *By giving engineered control of vibration and shock load,* Silentbloc Mountings step up operating efficiency, save maintenance and lengthen life. Better vibration control may enable you to take out weight and simplify assembly.

2. *By correcting for misalignment* in shaft supports, bearings and hinges, Silentbloc Bushings cut damage and wear, improve operation. You may eliminate machining and fitting to close tolerances.

3. *In oscillating joints,* Silentbloc Bearings give controlled torque action—trouble-free, long-lasting and needing no lubrication. They may replace expensive bearings and speed up production.



Rubber
Before Assembly After Assembly

This diagram shows the patented Silentbloc method of elongating and confining rubber between the outer and inner metal sleeves, forming an indestructible union of rubber-to-metal. By varying the elongation and modulus of the rubber, the size and shape of metal parts, General engineers can design a Silentbloc to give the exact performance you need. Silentbloc can be made of any metal and any type of rubber, to carry loads of ounces to tons.

The Silentbloc has proved its value in automotive, industrial and household equipment, aircraft, motors of all kinds, marine and electrical equipment. To learn how Silentbloc parts may improve your product, write for free booklet. General Tire & Rubber Co., Dept. A-121, Wabash, Ind.

The GENERAL SILENTBLOC MOUNTINGS BEARINGS COUPLINGS

THE GENERAL TIRE & RUBBER CO.
Mechanical Goods Division, Wabash, Indiana

▲ Mention Item NED-1019 when writing ▲

NEW Applications

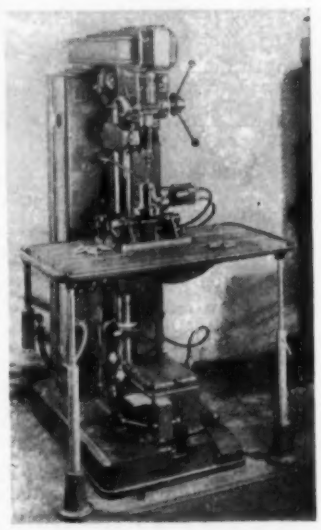
LARGE METAL SPINNING

One of the most unusual and difficult spinning jobs recently produced by this company is parabolic antenna of flattened and expanded steel which was spun on maple block 104 inches in diameter and weighing approximately 2½ tons. Two half circles of flattened expanded metal were welded together to make 102-inch diameter circle. While revolving in lathe at 185 revolutions per minute, this circle was dished or spun-in to block which was concave shaped to desired parabolic curve.

Spinning was then cut to shape shown on customer's blueprint and ¾-inch diameter, ⅛-inch wall seamless steel tubing was welded to outer edge for reinforcement. All ragged edges were ground off and assembly was given coat of red primer. Made by Milwaukee Metal Spinning Co., 1325 S. Forty-third St., Milwaukee 14, Wis.

▲ Mention Item NED-1020 when writing ▲

HOLDING FIXTURE SETUP



Used in conjunction with new Warner & Swasey precision tapping and threading machine, Air-O air-operated holding fixture permits production of one piece every 3 seconds. Special mounting tips fixture about 20 degrees for loading and unloading to save time which would be consumed in raising spindle additional height above work.

Operator steps on treadle to tilt fixture and it returns to vertical position when pressure is released from treadle. Micro Switch then starts operating cycle. When cycle is completed, machine stops. Automatic valves are installed at control box to open and close collet in fixture when it is tilted to facilitate loading and unloading. Fluctuation in air pressure does not affect holding power of fixture.

No. 2 collets are used in fixture. Because collet does not move vertically in closing, close tolerances can be held. Stop assures accurate duplication of operation. Made by Zagar Tool, Inc., 23880 Lakeland Blvd., Cleveland 17, O.

▲ Mention Item NED-1021 when writing ▲

EVERY BOILER SHOULD HAVE ITS OWN . . . . CAT'S-EYES

FOR BETTER COMBUSTION

THE BEST BOILERS ALSO USE ESS HAZEGAGES or WYD-ANGLE PERISCOPES

ESS INSTRUMENT CO., FORT LEE, N. J.

Indicators, Controllers, and Recorders for Smoke Haze and Combustion . . . Specific Gravity . . . Turbidity . . . Flame Failure . . . Industrial and Safety Applications

▲ Mention Item NED-1022 when writing ▲

Provide Dependable Power
and Meet Mechanical Design Specifications

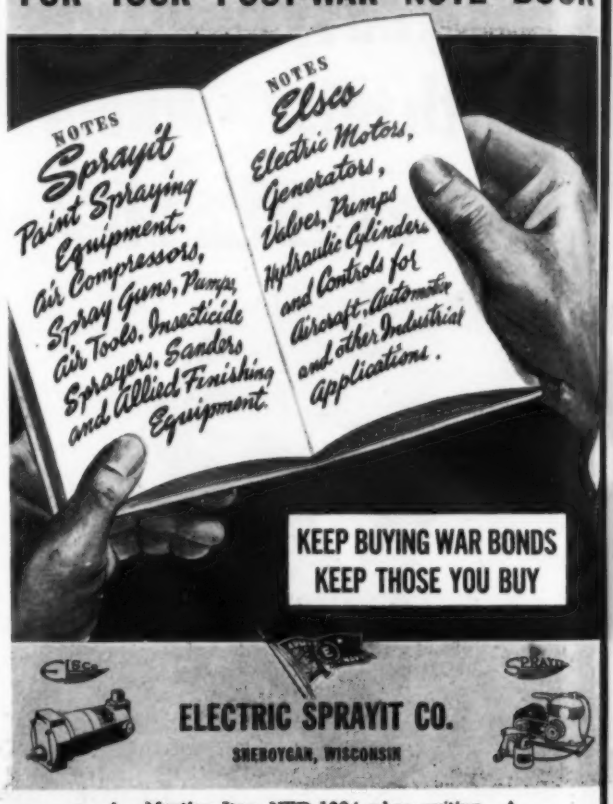
The problem of a well-known manufacturer of business machines was to obtain a motor and a generator that not only provided the correct power to operate extremely sensitive solenoids but also fit the space which was at a premium. Holtzer-Cabot motor development engineers tackled the job and designed a special motor and generator with the proper performance characteristics in special frames which fitted the space specifications . . . and another motor problem was solved.

For over 50 years Holtzer-Cabot has concentrated its energies in designing and building special motors. And although today, our plant facilities are devoted entirely to manufacturing special fractional H. P. motors for war products, our development engineers will gladly cooperate with you on your post-war fractional H. P. motor requirements.

HOLTZER-CABOT
Division of First Industrial Corporation
125 AMORY STREET, BOSTON 19, MASSACHUSETTS

▲ Mention Item NED-1023 when writing ▲

TWO GOOD ENTRIES . . . FOR YOUR POST-WAR NOTE BOOK



ELECTRIC SPRAYIT CO.
SHEBOYGAN, WISCONSIN

▲ Mention Item NED-1024 when writing ▲

Don't Let SLIME DEPOSITS CLOG Your Air Conditioning Units!

DO you want to control formation of slime deposits in your air conditioning equipment? Then add recommended amount of Oakite Airefiner to your recirculating water supply. It will combat slime, stop clogging of drains, piping, spray heads, pumps.

Clean, Then Treat System!

But before doing this, make certain that entire system is CLEAN! An effective, economical method is to circulate solution of Oakite Composition No. 22 which speedily removes sludge and other foreign matter. Then, after draining and rinsing, add Oakite Airefiner as directed. The results will speak for themselves! Write for FREE booklet giving complete details!

OAKITE PRODUCTS, INC., 32G THAMES ST., NEW YORK 6, N. Y.
Technical Service Representatives in All Principal Cities of the United States and Canada

OAKITE MATERIALS · METHODS · SERVICE — Buy Bonds for Victory — CLEANING FOR EVERY CLEANING REQUIREMENT

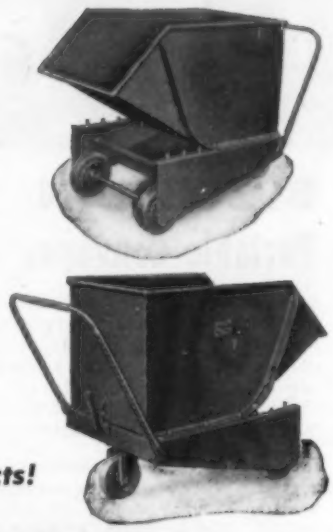
▲ Mention Item NED-1025 when writing ▲

AND NOW . . . a hand push PHIL-DUMP "JUNIOR" TRAILER

The famous roll-over type with quick release to normal position prevalent in the PHILLIPS family of Trailers. Roller Bearings, solid rubber wheels and welded steel construction with ½ cu. yd. capacity.

Other Phil-Dump Trailers include one, two and three cu. yd. capacities with choice of available tires.

★



GET the PHILLIPS facts!

PHILLIPS
MINE AND MILL SUPPLY COMPANY
MANUFACTURERS SINCE 1863
PITTSBURGH, PENNA.
Mine and Industrial Cars—Fabricated Steel—Iron Castings

▲ Mention Item NED-1026 when writing ▲

Is Internal Friction one of your Coupling Problems?

Bring it to Lovejoy

L-R FLEXIBLE COUPLINGS

L-R Couplings correct for misalignment, take up shock and vibration. Load cushions, free to deform to every emergency, also eliminate power destroying internal friction. Extremely quiet. No insulation ever required. No shutdowns for changing. Practically service-free.

L-R Type "H"

For heavy duties and exposure to weather. 4.60 to 806 h.p. Other L-R Couplings for services of 1/6 to 2500 h.p.

Pat. & Pats. Pend.

Quick-finding Selector Charts

L-R Charts with Complete Catalog lead you to your couplings at once. Full engineering data.

Wire or write

LOVEJOY FLEXIBLE COUPLING CO.
5003 W. Lake St. Chicago 44, Illinois

▲ Mention Item NED-1027 when writing ▲

IRON HORSE BRAND OILY WASTE CANS *for Safety with Durability and Economy*

Constructed in accordance with Underwriters Laboratory Specifications. Approved by Associated Factory Mutual Fire Insurance Companies.

Reinforced top—extra strength to stand up under rough treatment. Gravity closing for safety—can't stay open.

Opening mechanism hugs can exterior—no place for clothing to catch.

Oversize handles—securely riveted, make moving and handling much easier.

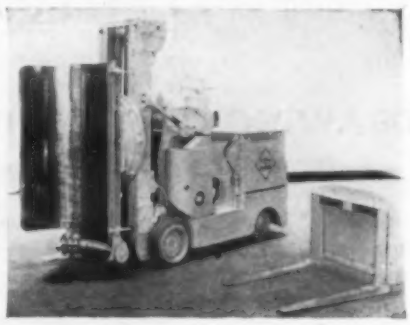
Full apron body amply ventilated for air circulation. Firm foundation eliminates tipping. Constructed of galvanized steel.

ROCHESTER CAN COMPANY
6 GREENLEAF STREET ROCHESTER 9, N. Y.

▲ Mention Item NED-1028 when writing ▲

New Applications—Continued

POWER TRUCK SWIVEL FORKS



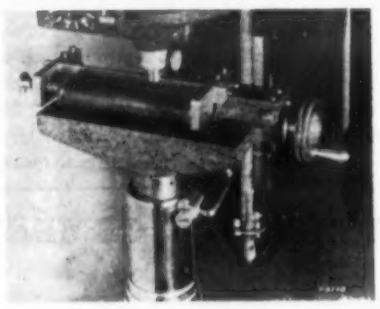
Flexibility in operation is afforded to power industrial trucks when equipped with interchangeable swivel forks. Model shown is type F-15 which is designed for paper mill or printing plant use. Fitted with roll handling scoop, this truck can pick up, carry, store or stack heavy newsprint rolls, and load or unload them in railroad cars. Rolls can be carried or stacked in either vertical or horizontal position without damage to paper.

Only a few minutes are required to remove roll handler and attach fork. Truck can then be used for handling and hauling flat stock on skids or pallets, or for handling bales or raw materials in mill or warehouse. Long, sharp forks shown can be used for handling rolls, although scoop is generally preferable. Scoop can be swiveled instantly for easy passage through doors or narrow aisles. Interchangeability of attachments adds to versatility of truck for maximum service.

Numerous appliances for handling, transporting and dumping of other types of materials have been developed for swivel mounting. These attachments are interchangeable with suitable forks for general pallet and skid loads, crates, boxes and barrels. Made by The Elwell-Parker Electric Co., 4502 St. Clair Ave., Cleveland 14, O.

▲ Mention Item NED-1029 when writing ▲

HARDNESS TEST FIXTURE



Consisting mainly of heavy, rigid base casting, indexing screw and quick return mechanism, this indexing fixture for Jominy hardenability bars can be mounted readily on either Clark or Wilson hardness testing machine. Plug which supports fixture in machine is hardened and ground tool steel. It projects upward through base casting and forms surface against which diamond point presses against Jominy bar.

Screw operating carriage back and forth is stainless steel, being turned by means of chrome-plated brass handwheel. Bronze half-nut is fastened to quick release lever engaging screw. When test bar has reached end of its travel, half-nut is released and entire carriage slides back rapidly to new starting position. Adjustable stop automatically provides initial starting point on test bar. Spring plunger holds test bar in position and allows enough freedom for bar to rest firmly on hardened steel stud. Device is finished in black Kem-Resist and all plated parts are finished in chrome. Made by Precision Scientific Co., 1738 N. Springfield Ave., Chicago 47, Ill.

▲ Mention Item NED-1030 when writing ▲

The Sheffield THREDCHEK provides a more *specific* and *accurate* check of critical thread elements than the conventional *collective* check.

Two GO rolls serve to pass parts that are not oversize and which *will* assemble. These rolls screen out parts which are oversize or which will not assemble because of an excessive error or combination of such errors in lead, angle and pitch diameter.

As the parts are passed from the GO or assembly rolls and are presented to the two NOT GO rolls, one of which is mounted so as to actuate a dial indicator, the dial shows whether the pitch diameter is too small and *by how much*. Should the pitch diameter show as being within tolerance limits and near basic, then it can be assumed that lead and angle are not only within tolerance limits but are also of the highest dimensional quality.

Full manufacturing tolerances may be utilized because wear allowance is compensated by adjusting the rolls on their eccentric axis.

Write for engineering data "Instruments #8".

THE SHEFFIELD CORPORATION
Dayton 1, Ohio, U.S.A.
SHEFFIELD
MACHINE TOOLS · GAGES · MEASURING INSTRUMENTS · CONTRACT SERVICES

▲ Mention Item NED-1031 when writing ▲

TIMESAVER

Handling is believing. Get the finger tips of your left hand on the control ring of a Paragon Drafting Machine. The lightest pressure sets the scales at the angle you want, anywhere on the board. With your right hand always free, this is a great timesaver. Get the full story at your dealer's or write for booklet.

KEUFFEL & ESSER CO.
EST. 1867
NEW YORK • HOBOKEN, N. J.
CHICAGO • DETROIT • ST. LOUIS
SAN FRANCISCO • LOS ANGELES
MONTREAL

PARAGON
REG. U. S. PAT. OFF.
DRAFTING MACHINE

▲ Mention Item NED-1032 when writing ▲

JOHNSON BRONZE SLEEVE TYPE BEARINGS

Ready to use....

● Every Johnson GENERAL PURPOSE Bearing is completely machined to standard tolerances . . . ready for immediate installation. From our stock list of over 850 sizes you can buy exactly according to your needs. They are ideal for maintenance or new equipment. Write for our new catalogue and then try them on your next job. Satisfaction guaranteed.

JOHNSON BRONZE
SLEEVE BEARING HEADQUARTERS
580 S. MILL STREET NEW CASTLE, PA.

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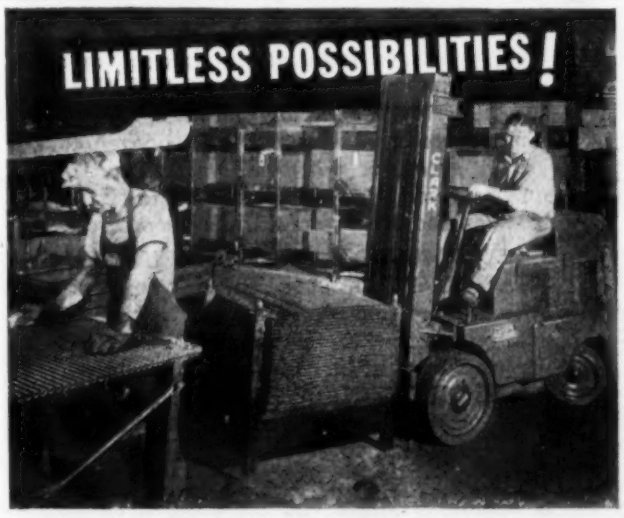
LIMITLESS POSSIBILITIES!



It's "one in a thousand"
—this fast, versatile, tireless worker
—for a "thousand and one" necessary jobs of moving materials at low cost.

CLARK TRUCTRACTOR
BATTLE CREEK, MICHIGAN, U.S.A.

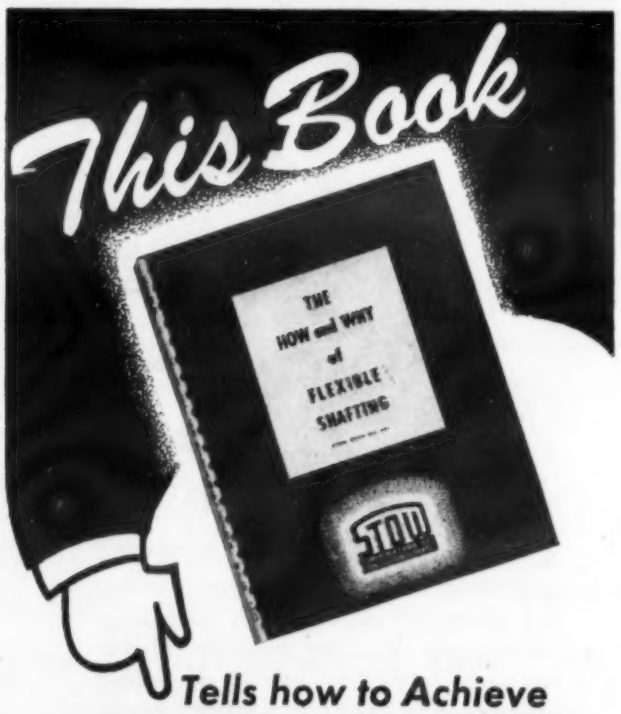
▲ Mention Item NED-1034 when writing ▲

. . . that WELDISKS cut faster and longer!

Two things! First, tough grit—made of electric furnace treated aluminum oxide. Second, this unique 3-ply backing: 1 layer of specially treated and pressed fibre that keeps edges from going "flabby"; 2 layers of heavy cloth, encasing fibre, that prevents the fibre from cracking under pressures. Up grinding output—use fast-cutting, long-lasting Weldisks on all tough jobs! Grits 320 to 16.

Abrasive Products, Inc.
SOUTH BRAINTREE 85, MASSACHUSETTS · MAKERS OF JEWEL COATED ABRASIVES

▲ Mention Item NED-1038 when writing ▲



Tells how to Achieve

SIMPLICITY, LIGHT WEIGHT, LOW COST...

in Many Post-War Products

To transmit power around obstacles—to eliminate universal joints—to eliminate mitre gears—to abolish spur gears—to connect out-of-line parts, or parts with relative movement—the answer is very often STOW FLEXIBLE SHAFTING. It's the simplest means of transmitting power in or out of line, through congested areas, or where allowance must be made for variations in the route and distance between the driving and driven members.

"THE HOW AND WHY OF FLEXIBLE SHAFTING" is a fact-filled, diagram-packed book prepared especially for product engineers who realize that the competition of the post-war market must be met first by the designer. If FLEXIBLE SHAFTING can solve any of *your* problems, you'll find the basis for its use in the detailed technical data which fills this booklet.

● Hundreds of designers are now writing us for more complete information on FLEXIBLE SHAFTING. Many manufacturers ask us to make suggestions for incorporating this mechanical element in their post-war products. The FACTS in this Booklet will enable you to determine whether FLEXIBLE SHAFTING can solve design problems for you. ASK FOR YOUR FREE COPY TODAY!

ARMY E NAVY

STOW MANUFACTURING CO.
26 Shear St., Binghamton, N. Y.

▲ Mention Item NED-1039 when writing ▲

NEW Processes AND Materials

DRAWING COMPOUND

Successfully used in deep drawing of brass and steel, No. 268 dry drawing and annealing compound is applied as waxy, aqueous emulsion. It is applied in varying strengths to give nearly imperceptible wax coating. Either drum or spray type mechanical washing machine is used to apply compound at operating temperature of 175 to 185 degrees Fahr. Pieces to be run should be clean, coming either from pickling line or from wash.

Coating contains sufficient annealing compound to prevent formation of hard mill scale during anneal, but does produce thin, porous, protective scale which is easily removed in subsequent pickling to leave clean, scale-free surface. This also applies to minutely imbedded hard scale which might have been on piece before drawing operation.

Pieces can be drawn as they come from washing machine, without use of coolant or added lubricant. Final finish is smooth and clean. If two draws in sequence are required, it is generally unnecessary to reapply compound before second draw. However, if there is cleaning, annealing or pickling operation between draws, reapplication is required.

Both equipment and operator are kept clean when working with this compound. There is no fluid to contend with and compound prevents corrosion. Made by **Plasteel Corp.**, 3900 W. Jefferson Ave., Ecorse 18, Mich.

▲ Mention Item NED-1040 when writing ▲

ACIDPROOF CEMENT

Resistant to attack by either alkali or acid materials, Duracite furane base resin cement has high compressive and tensile strength. It affords protection against most inorganic acids, organic acids, alkalies of any degree of concentration, hydrocarbons and solvents. It can be used as mortar for acid-proof masonry in tank linings, floors, sewers, towers and other installations handling alternately acids and alkalies. It is recommended for temperatures up to 350 degrees Fahr.

It is available in form of liquid and powder. It can be stored indefinitely before mixing without deterioration. Setting time is easily controlled to suit requirements of individual job, although normal setting time allows continuous laying of brick. It is resistant to abrasion, to impact shock and to rapid changes in temperature. Absorption is less than .5 per cent. It is nontoxic and has no dangerous effect on skin. Made by **The U. S. Stoneware Co.**, P. O. Box 350-B, Akron, O.

▲ Mention Item NED-1041 when writing ▲

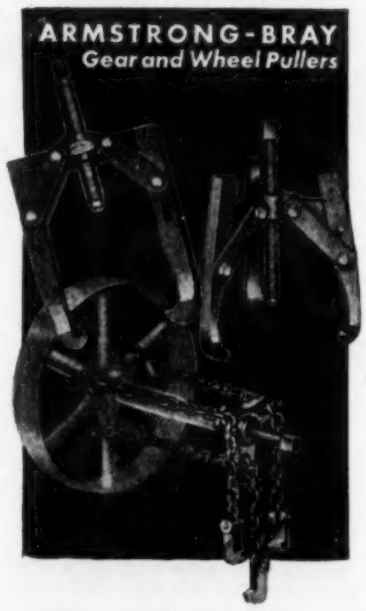
Prompt Shipment from Stock!

Today wheels must keep turning . . . shut-downs for repairs and change-overs must be brief, and a good wheel puller is essential to save valuable man and machine hours and prevent breakage of irreplaceable wheels, pulleys and gears.

ARMSTRONG-BRAY GEAR AND WHEEL PULLERS come in types and sizes for all industrial applications.

STEELGRIP Standard Rigid Arm Pullers are of improved design. Will not slip from work. Arms are forged and heat-treated. 2-arm, 3-arm and special designs. 11 types.

CHAINGRIP Universal Pullers pull spoked wheels, solid gears, pinions, etc., even though they are a considerable distance from end of shaft. Proof tested chains have chain hook on one end, and special pulley hook on other. Furnished in 2 sizes.



Write for Catalog today. Be ready for emergencies—to keep wheels turning

ARMSTRONG-BRAY & CO.
"The Belt Lacing People"
5362 Northwest Highway, Chicago 30, U. S. A.

▲ Mention Item NED-1042 when writing ▲

BUSCHMAN
Portable Conveyor

transports, by gravity, packages, cartons, cases, etc., to and from production lines, storage, loading docks. Convenient to carry from place to place where needed. Easily, quickly set up and coupled to any length, thru exclusive "Quick-Eez" coupling feature.

In standard 10' and 5' sections; straight and curved. Wheels are free-running, full ball-bearing. Sturdy stands are adjustable in height. Mobile units, straight and curved, mounted on swivel casters, are available.

Write for Bulletin 18

THE E. W. BUSCHMAN CO., Inc.
411 New Street . . . . . Cincinnati 2, Ohio

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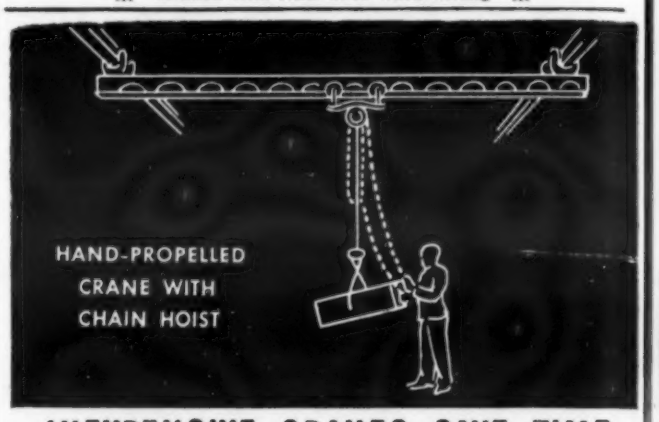
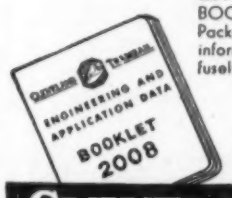


INEXPENSIVE CRANES SAVE TIME

Heavy materials that require tugging, lugging and heavy lifting by one or several men can be picked up and moved by one man with an easy operating Cleveland Tramrail crane in a fraction of the time.

Cleveland Tramrail cranes are built for hand or electric operation, in various capacities, and for any span up to 120 ft. and greater.



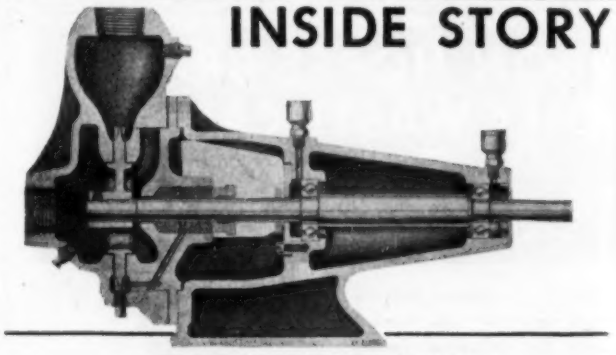
GET THIS BOOKLET!
BOOKLET No. 2008
Packed with valuable information . . . Profusely illustrated.

CLEVELAND TRAMRAIL DIVISION
THE CLEVELAND CRANE & ENGINEERING CO.
1143 E. 283rd St., Wickliffe, Ohio.

CLEVELAND TRAMRAIL

▲ Mention Item NED-1044 when writing ▲

INSIDE STORY



OF A WORTHINGTON REGENERATIVE TURBINE PUMP

Typical cross-section of Types TF and TG Worthington Regenerative Turbine Pumps illustrates the important reasons why they safeguard continuous production:

High head per stage — only one stuffing box — suction pressure on stuffing box — renewable clearances — oversize ball bearings — inherently self-priming — noiseless — no rubbing contact of parts—separable liquid end—reliable for 3600 as well as 1800 r.p.m.

Also in BALANCED MONOBLOC Design — Write for Bulletins W-324-B2 and W-324-B3 (Monobloc). *Worthington Pump and Machinery Corporation, Standard Products Division, Harrison, N. J.*

WORTH BEHIND THE NAME
WORTHINGTON

CP4-32

▲ Mention Item NED-1045 when writing ▲

NOW... NEW LIFE for OLD BRUSHES

CABOT'S Brush Cleaner smacks out hardened paint right down to the heel—gives new life to old bristles—keeps them flexible, lustrous, like new! Harmless to bristles and setting. Non-caustic. Fast-working. Economical.

SEND FOR SAMPLE. Enclose 10c for packing and mailing. Samuel Cabot, Inc., 1413 Oliver Bldg., Boston 9, Mass.

Cabot's BRUSH CLEANER

▲ Mention Item NED-1046 when writing ▲

New Processes & Materials

LUBRICANT ADDITIVE

When added or blended with any good grade of oil in correct proportion, Gibraltar Oil Concentrate is claimed to produce super-lubricant. It is recommended industrially for use in all types of internal combustion engines, including steam and gas engines, turbines, air compressors, truck engines, vacuum pumps and aviation equipment. Additive mixes thoroughly with any type of lubricating oil. It will not settle out or segregate and cannot be extracted by any filter.

Material is claimed to prevent formation of hard carbon on valves and rings in air compressors and internal combustion engines. It gives improved spreading and wetting action to lubricant treated, actually penetrating pores of metal. Cylinder walls become saturated with oil and when walls heat up, oil exudes from pores of metal to give instant lubrication. Because of wetting ability and heat resisting properties, additive is recommended to reduce feed of oil on air compressors. It will also reduce oil consumption of internal combustion engines, according to claims. Standard mixture is one part Concentrate to eight parts of lubricating oil. Made by Hood Refining Co., 232 N. Hamilton Ave., Greensburg, Pa.

▲ Mention Item NED-1048 when writing ▲

SYNTHETIC RUBBER

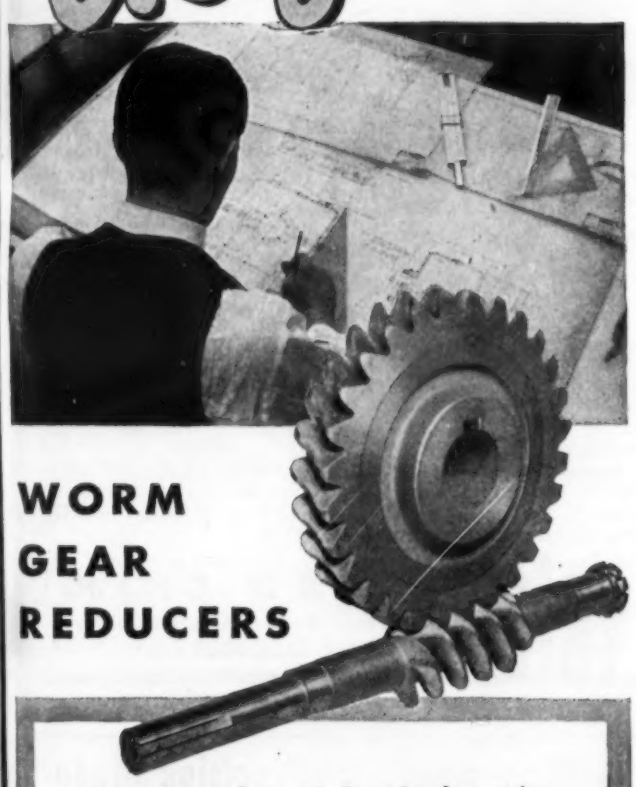
Claimed to extend synthetic rubber's range of usefulness to many products formerly requiring natural rubber, new synthetic rubber resin imparts rigidity to synthetic rubber itself in direct proportion to amounts used in compounding. It is pointed out that this development has no bearing on the tire situation. It is of use for wire and cable insulation, safety helmets, golf ball covers and similar products where extremely rigid, lightweight and impact resistant material is needed.

Replacing lampblack, heretofore considered solely feasible for synthetic rubber compounding, this resin permits production of synthetic rubber products where colors are desired, as in household articles, decorative items, toys and kitchen equipment, or where high resistance to electrical current is desired.

Resin is made in three grades, designated as Pliolite S-1, Pliolite S-2 and Pliolite S-3. They afford high dielectric strength, improved processability, reduced curing time and high tensile strength with excellent elongation in cured products. They are produced as powder or as master batch, latter consisting of 50 per cent synthetic rubber resin and 50 per cent styrene type synthetic rubber. Made by Goodyear Tire & Rubber Co., 1144 E. Market St., Akron 16, O.

▲ Mention Item NED-1049 when writing ▲

D.O.James ESTABLISHED 1888

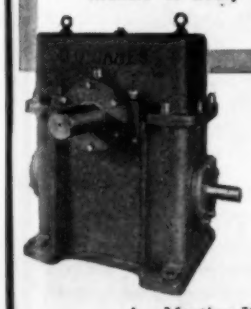


WORM GEAR REDUCERS

Designed and Built for the Successful "Doing of The Job"—

Due to their wide ratio range, the D. O. James Worm Gear Reducers are ideal for many power saving installations. They are designed and built by an organization that has had over a half century of Gear Making Experience and who have successfully pioneered the Gear Reducer to its present high efficiency standards. The many and repeated installations of D. O. James Worm Gear Speed Reducers testify to their superiority and adaptability. These reducers are the result of excelling craftsmanship in our engineering, cutting, grinding, assembling, inspection and testing departments. An experienced supervision and modern plant facilities assure a finished product that will be successful in "The Doing of The Job."

D. O. JAMES MANUFACTURING CO.
1140 W. Monroe Street Chicago, Illinois
Makers of Every Type of Gear and Gear Reducer

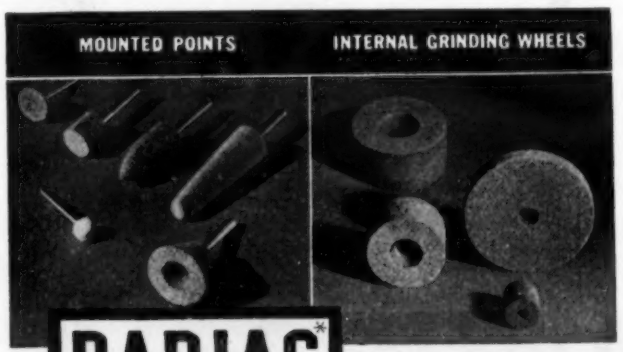


Type "H" Worm Gear Speed Reducer Horizontal (Illustrated) or Vertical Drive—26 Sizes, Ratio Range of 6 to 65:1, and from 1/32 to 150 Horsepower.

▲ Mention Item NED-1047 when writing ▲

THE RIGHT WHEEL EVERY TIME!

Radiac wheels are specially "prescribed" for each job you have. The prescription is individually "custom-compounded" by hand. Then the prescription is recorded at our plant to insure promptly, accurately filled reorders—and you get the right wheel every time. All Radiac mounted points and wheels are 100% tested—produced by pioneers in the industry. Remember, results are better with Radiac.



RADIAC*

*T. M. Reg. U. S. Pat. Office
Copyright, 1944, A. P. de Sanno & Son, Inc.

A. P. DE SANNO & SON, INC., 446 Wheatland St., Phoenixville, Pa.
SINCE 1893
New York • Chicago • Pittsburgh • Cleveland • Detroit • Los Angeles

▲ Mention Item NED-1050 when writing ▲

THE ACROMARKER FOR PERFECT MARKING

For marking numbers and letters into name plates parts, seals discs, in metal, etc.

Features:
Stamps nameplates up to 9" x 5" x 5/8" thick. Die sizes 1/16" to 7/16".
Operating lever requires only a minimum of effort for clean, deep markings.
Dies are replaceable, and automatic advance permits accurate character spacing.

The ACROMARKER is a remarkably easy-to-operate marking machine offering faster, more accurate marking than heretofore possible. Widely used in industry, this model weighs only 30 lbs. It stamps letters and figures in straight or curved lines. With it unskilled help can do the work of skilled men faster and accurately.

Write for literature

THE ACROMARK CO.
7-11 MORRELL STREET, ELIZABETH 4, NEW JERSEY

▲ Mention Item NED-1051 when writing ▲

TO PUT "SPOTS OF HEAT" INTO ANY MACHINE

G-E CARTRIDGE HEATERS
(One of the popular G-E midget heaters)*

Use these convenient electric heaters to build localized spot-heating into processing machinery, such as embossing presses, die blocks, sealing machines, glue pots, etc. Easily installed—simply drill a hole in the part to be heated, insert the cartridge heater, and connect into the nearest outlet. Unusually durable, they give long efficient service. Temperatures up to 1200 F. Sizes from 1½ to 8½ inches long. PRICES FROM $2.20

SEND FOR GED-650

Here, in one small book, are the answers to the hundreds of small heating problems that arise daily in industrial plants to puzzle electrical engineers, superintendents, foremen, owners, and maintenance men. *General Electric Co., Schenectady 5, N. Y.*

*OTHER G-E HEATERS: CARTRIDGE HEATERS • HEATING CABLE • CONVECTION HEATERS • CALROD IMMERSION HEATERS • STRIP HEATERS • CALROD HEATERS • FIN CALROD HEATERS

GENERAL ELECTRIC

▲ Mention Item NED-1052 when writing ▲

Your SAWS are no better than your SAW FILING

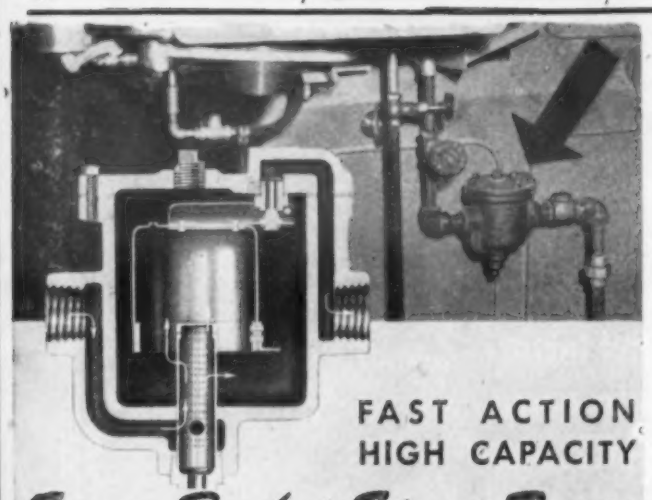
Inaccurate saw filing can ruin the cutting efficiency of the best saws, perhaps crack or break them. The machine precision of Foley Saw Filing can increase your sawing output 25% to 40%. The Foley *automatically* joints the saw as it is filed, making all teeth uniform in size, height, spacing. Foley-filed saws run cooler, cut fast, do beautiful work—and stay sharp longer.

30-DAY TRIAL of the Foley Saw Filer is offered—to show you what a difference Foley-filed saws can make.

FOLEY Automatic SAW FILER

FOLEY MFG. CO., 23 2nd St. N. E., Minneapolis 13, Minn.
Please send literature on the Foley Automatic Saw Filer and details of your 30-Day Trial.
*Name*_____
*Address*_____

▲ Mention Item NED-1053 when writing ▲



FAST ACTION
HIGH CAPACITY

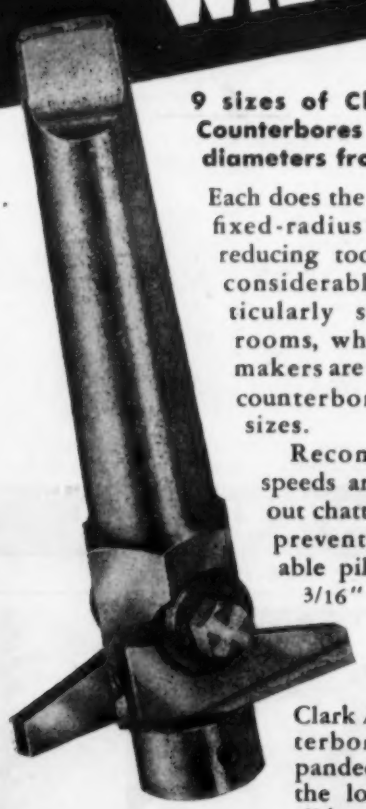
Sarco Bucket Steam Traps

This trap removes condensate from steam supply lines to pumps, engines, turbines and separators and is preferred by laundries, textile, and plastic industries. It can be adapted to the highest commercial steam pressures and temperatures and can be inspected without disturbing pipe connections. Integral strainer protects the mechanism. Sizes ½ to 2", pressures up to 900 lbs. Ask for Catalog No. 350.

SARCO SAVES STEAM
SARCO COMPANY, INC.
475 Fifth Avenue, New York 17, N. Y.
SARCO CANADA, LTD., 85 Richmond St. W., TORONTO, ONT.
183

▲ Mention Item NED-1054 when writing ▲

WHY USE 63 WHEN 9 WILL DO?

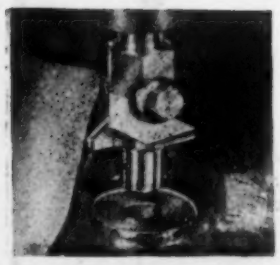


9 sizes of Clark Adjustable Counterbores cut all fractional diameters from ¼" to 5½".

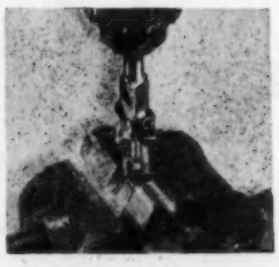
Each does the work of 7 or more fixed-radius cutters, thereby reducing tool inventory costs considerably. They are particularly suitable for tool rooms, where tool and die makers are constantly needing counterbores of different sizes.

Recommended surface speeds are faster, and without chatter. Exclusive, burr-preventing interchangeable pilots available from 3/16" up, by sixteenths.

Clark Adjustable Counterbores are easily expanded. Simply loosen the locking bolts and slide cutting blades in or out. Blades are removable for sharpening.



No de-burring of pilot holes necessary.



Clark Counterbores spot face as well as bore.

Write for bulletin NED-2-CB, and call your Clark Cutter Jobber today.

CLARK CC CUTTERS
Robert H. Clark Company
9330 SANTA MONICA BOULEVARD · BEVERLY HILLS, CALIFORNIA

▲ Mention Item NED-1055 when writing ▲

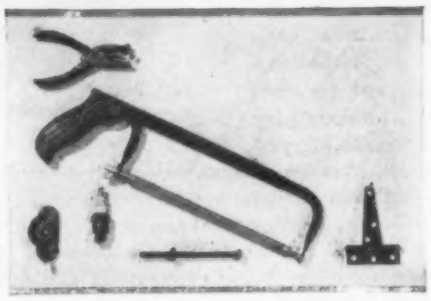
New Processes & Materials

FUNGUSPROOF TAPE

Protection of shipments against fungus growths, particularly those shipped to tropical areas, is provided by fungicide treated Self-Stik Cloth Tape. Fungicide is applied to all components of tape; cloth, adhesive and backing which impregnates tape against moisture, water, salt spray, gases and other damaging elements. Tape is used as seal in packing and as protective covering when applied directly to product. Made by Mystik Adhesive Products, 2635 N. Kildare Ave., Chicago 39, Ill.

▲ Mention Item NED-1056 when writing ▲

METAL BLACKENING PROCESS



Providing tough, durable finish, Ferrotoning chemical blackening finish for ferrous parts utilizes simple immersion equipment which can be set up quickly in small manufacturing or plating plants. Bath operates at temperature considerably below that required by oxide finishing baths. It is unnecessary to use two oxidizing solutions as is required in many processes.

Gleaming black or rich matte finish is obtained which is integral with metal. Finish does not chip, flake or peel, even under repeated flexing. It will not blister and cannot be removed under routine cleaning operations by action of solvents or degreasing agents.

Ferrotoning finish is said to meet Army specifications 57-0-2C, type 3, Class A for ordnance material. This specification process is completed by finishing blackened surface with non-drying petroleum oils, rust inhibiting lacquers or synthetic resin coating. Dimensions of treated parts are not increased or decreased by process. Developed by Turco Products, Inc., Dept. 25, 6135 S. Central Ave., Los Angeles 1, Calif.

▲ Mention Item NED-1057 when writing ▲

RUBBER DISPERSING AGENT

Making possible uniform distribution of carbon black throughout synthetic rubber stock, Triton R-100 dispersing agent plays important role in mixing process developed by General Tire & Rubber Co. Time for mixing has been reduced by one-third and it eliminates need for incorporating carbon black into dry rubber in mills or heavy duty mixing equipment. If carbon black is mixed with water solution of dispersing agent and this mixture added to synthetic rubber when it is in emulsion form, normal coagulation processes produce rubber stock containing desired amount of black properly dispersed throughout. By decreasing viscosity of carbon black slurry, dispersing agent makes handling easier and avoids mechanical difficulties.

Tires produced from synthetic rubber thus processed are proving equal to those made from rubber mixed by older process. Problem of equipment shortage was solved by this development. Full scale commercial production of rubber by new process is under way. Triton R-100 made by Rohm & Haas Co., 222 W. Washington Square, Philadelphia, Pa.

▲ Mention Item NED-1058 when writing ▲

POWERFUL CLEANER
for Motors and Machinery!

IDEAL "3 in 1" ELECTRIC CLEANERS

Do as thousands of others are doing—

Protect your motors, electrical equipment and machinery through regular use of IDEAL Electric Cleaners, the most powerful hand cleaner made. Blows clean dry air, evaporates moisture, prevents corrosion. NOW AVAILABLE ON PROPER PRIORITY.

BLOW
VACUUM
SPRAY

Write for Detailed Literature

IDEAL *Sycamore*
Industrial Cleaner Division
IDEAL COMMUTATOR DRESSER CO.
1032 Park Ave. ★ Sycamore, Ill.
Sales offices in all principal cities

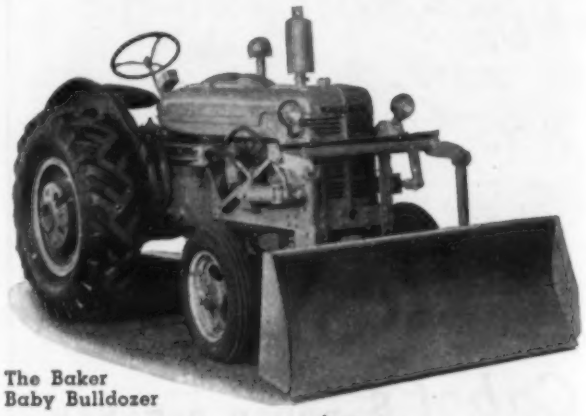
▲ Mention Item NED-1059 when writing ▲

REMOVE SNOW

WITH THIS HANDY "CLEAN-UP" UNIT!

Cleans walks, drives, loading docks, parking areas. Removes rubbish from plant floors. Piles coal, ashes, chemicals. Spreads material. Used in many plants. Send for bulletin.

THE BAKER MFG. CO.
519 Stanford Ave.
Springfield, Ill.
"If it concerns Victory, it concerns us!"



The Baker Baby Bulldozer

BULLDOZERS · SNOW PLOWS · BAKER · CONSTRUCTION EQUIPMENT

▲ Mention Item NED-1060 when writing ▲

"10 MILLION PIECES WITHOUT A SINGLE REJECTION, thanks to MICRO-CHEK"
says
Lucas Screw Products, Inc.

Priced from $9.75

Users of nearly 100 Trico MICRO-CHEKS, Lucas Screw Products, Inc. of Rochester, N. Y., reports:

"We find them to be a low-cost, economical way of controlling accuracy on high precision automatic screw machine production. In numerous cases, we have reduced our gage cost from 50 to 75 per cent. They check close tolerances . . . eliminating fatigue and uncertainty upon the operator. Their simplicity enables us to use inexperienced help in final inspection. In one case we produced 10,000,000 pieces without a single rejection from the prime contractor."

Speed inspections in YOUR plant with TRICO MICRO-CHEK Comparator Gages, now in use in more than 3600 war plants . . . on machines, on inspection lines. Send for booklet which illustrates many applications

TRICO MICRO-CHEK
TRICO PRODUCTS CORP.
150 Trico Square, Buffalo 3, N. Y.

▲ Mention Item NED-1061 when writing ▲

Accurate • Precision Made
Sustained Efficiency

Abart GEARS

Precision cutting in all materials. Made to your specifications only. No Stocks. Let Abart know your requirements.

SPUR
WORM
BEVEL
HELICAL
INTERNAL

•

Also Abart Speed Reducers are used everywhere!

Over 75 Types and sizes: Spur, Worm and combinations.

Abart GEAR AND MACHINE CO.
MANUFACTURERS OF
Speed Reducers & Gears
4822 WEST 16th ST., CHICAGO 50, ILLINOIS

▲ Mention Item NED-1062 when writing ▲

Announcing the New
MASONEILAN DISPLACEMENT-TYPE
LEVEL CONTROLLER

Result of years of engineering development, this New Masoneilan 12,000 Series Controller combines refinements never before found in this type of Controller. Models are available for controlling levels of all liquids of all usual specific gravities at usual pressures and temperatures, for interface service, specific gravity control and remote level indication.

FEATURES

MOUNTINGS
Available with screwed or flanged top and bottom connections; side cylinder flanged connections; top of vessel flanged connections; or side of vessel flanged connections. Controller Case mounting may be right hand or left hand and may be reversed in the field without replacement or addition of parts.

RANGES
14 and 32 inches 4, 5, 6, 8, 10 and 15 feet.

TORQUE TUBE ASSEMBLY
Torque tube and all parts made of Inconel. Rotation limit stops are provided to protect the torque tube.

CONTROLLER CASE
Sturdy and scientifically ribbed to prevent any possibility of distortion.

CONTROL MECHANISM
A new principle: sensitive to .001 of an inch change in level. Proportional mechanism is a unit assembly mounted in the controller case. Large capacity pilot.

ADJUSTMENTS
Proportional band of 1 to 100% easily adjustable over 4 inch graduated scale. Proportional band is linear to close tolerances in all settings.
Specific gravity scale adjustable from .5 to 1.2 or from .8 to 2.0.

MASONEILAN
MASON-NEILAN REGULATOR CO.
1205 ADAMS ST., BOSTON 24, MASS.
New York Philadelphia Pittsburgh Tulsa Toledo Chicago
St. Louis Houston Atlanta Los Angeles San Francisco
Mason Regulator Co. of Canada, Ltd., Montreal, Canada
▲ Mention Item NED-1063 when writing ▲

REVOLVATOR
REG. U. S. PAT. OFF.
MATERIAL HANDLING EQUIPMENT

Why Pay More?

You wouldn't send a boy on a man's job so why send a man on a boy's job? Use *hand powered* Red Giant Liftrucks and hand powered Revolvator Portable Elevators for light or infrequent hauling and piling—at a mere fraction the cost of power trucks and lifts. Both these Revolvator products are rugged and dependable—seldom require vacations for repairs—can be counted on to "deliver the goods." Save men, money and minutes.

We make power elevators, too, so can recommend impartially. There's a Revolvator Portable Elevator and a Red Giant Liftruck, just right in size, capacity and price to fit your needs.

Hand model REVOLVATOR with revolvable base piling cases containing delicate x-ray equipment

REVOLVATOR CO.
DESIGNERS AND MANUFACTURERS OF MATERIAL HANDLING EQUIPMENT
2032 86th St. NORTH BERGEN, N. J. Since 1904
▲ Mention Item NED-1064 when writing ▲

SYMBOLIZES THE SOLUTION TO YOUR SEALING PROBLEMS

Seal rings developed by Pure Carbon are meeting the most exacting demands for efficiency. In applications where low friction, non-abrasive and long-lasting seal rings are a necessity, our carbon seal rings are demonstrating their superiority to the complete satisfaction of increasingly more manufacturers. Consult the Pure Carbon engineer in or near your city. He'll gladly co-operate with you in working out the answer to your sealing needs.

Send For New Book Defining Uses of Carbon Seal Rings

PURE
Pure Carbon Co., Inc.
2130 Nobrac St., St. Marys, Pa.
▲ Mention Item NED-1065 when writing ▲

New Processes & Materials

BURN TREATMENT

Claimed to provide successful treatment of painful burns, Hydrosulphosol ointment has passed extensive tests over long period of industrial usage. Both ointment and liquid solutions have been used widely in hospitals on all types of burns for the past four years, according to manufacturer. Healing values are obtained through property of ointment to act as chemical barrier to oxygen and prevent its penetration into scarred tissue. It also suffuses damaged tissues, breaks down oxidized cells and stimulates natural restoration of injured tissues, it is said.

Listed healing features of this sulfhydryl solution are quick relief from pain, infection control, acceleration of healing, non-toxic safety and stimulation of new tissues or repair of burned ones to check danger of disability. Offered by **Davis Emergency Equipment Co.**, 73 Halleck St., Newark 4, N. J.

▲ Mention Item **NED-1066** when writing ▲

WATERPROOF FILLET CEMENT

Featuring simplicity of application, waterproof fillet cement is claimed to conserve time and labor in pattern shop application. Sand will not stick to edges of fillet on which it has

been used, thereby assuring good castings. In addition to being impervious to moisture, this material is unaffected by heat of sand in production foundries. It may be used for leather, wood and plastic fillets and may be applied to wood or metal patterns. Made by **Kindt-Collins Co.**, W. 127th & Elmwood Ave., Cleveland 11, O.

▲ Mention Item **NED-1067** when writing ▲

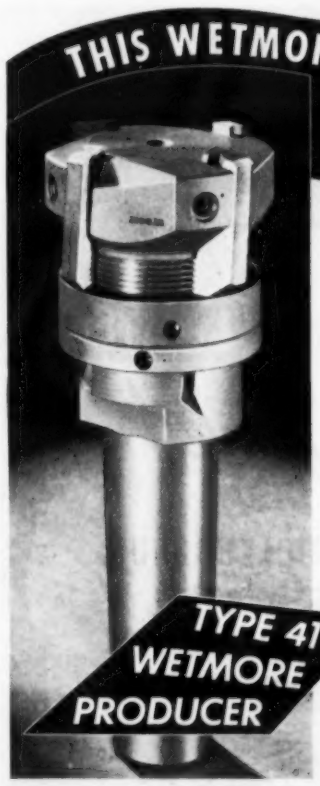
WATER RESISTANT ADHESIVES

Intended for overseas packaging of military parts and supplies, four water resistant adhesives have been developed which meet water immersion tests of Army and Navy packaging specifications. Each product has characteristics which make it suited for particular operation in manufacture and final sealing of waterproof bags, case liners, and gluing of V-board export box flaps.

No. 3130 is reclaim rubber and resin emulsion, with retack features and is designed for quick bonding of case liner and waterproof bag stocks. No. 4016 asphalt and rubber emulsion, with retack features, is intended for brush application to large case liners and bags. It is medium fast setting. No. 676 vinyl polymer emulsion is for fast hand or machine sealing of V-boxes, small cartons, case liners and bags. No. 688 vinyl polymer-starch adhesive is for hand brush sealing of V-board cartons and cases where suction is necessary and final drying is accomplished under pressure. Made by **Paisley Products, Inc.**, 1770 Canalport Ave., Chicago 16, Ill.

▲ Mention Item **NED-1068** when writing ▲

THIS WETMORE PRODUCER IS A RUGGED TOOL



removes more stock—faster, better...

...and is adjustable for wear

Send for Wetmore Tool Guide for complete details

WETMORE REAMER CO.
417 North 27 Street, Milwaukee 8, Wisconsin
▲ Mention Item NED-1069 when writing ▲

YOUR SOAP SOLUTION COSTS 1c A BUCKET WHEN YOU USE
WHIZ UNIFOAM SOAP

WHIZ Unifoam Soap comes to you in a patented system drum—a soap factory in miniature. With a 450 pound drum, you can make a tank car of excellent soap solution *for about 1c a bucket!*

WHIZ Unifoam Soap is a pure, hard, concentrated vegetable-oil potash soap—no fillers, rosin, tallow, or animal matter. Lathers quickly in cold water . . . rinses without streaking . . . does not irritate the most sensitive skin. Order Unifoam Soap from your WHIZ distributor. *Industrial Division, R. M. Hollingshead Corporation, Camden, New Jersey; Toronto, Canada.*

Whiz UNIFOAM SOAP
A PRODUCT OF Hollingshead
LEADER IN MAINTENANCE CHEMICALS
▲ Mention Item NED-1070 when writing ▲

SHIPPING PROTECTION

There is a strap size for every type of container.

It is good business to select a container . . . carton—crate—package . . . that meets each particular shipping requirement. This clothing firm employs all three at a savings. Note that each has Signode Steel Strapping PROTECTION.

SIGNODE PACKING AND SHIPPING SERVICE

is at your command. A fully qualified Representative will gladly consult on any shipping problem—his experience may mean savings in materials and time. Why not call for his service?

SIGNODE STEEL STRAPPING COMPANY
2201 N. Western Ave., Chicago 47, Ill.
Brooklyn, N. Y.: 378 Furman St.
San Francisco, Calif.: 467 Bryant St.
▲ Mention Item NED-1071 when writing ▲

In Research Or Design

Especially convenient for obtaining odd resistance values quickly, for adjusting circuits, and for use on equipment which must be set to meet various line voltages . . . through the use of one or more adjustable lugs. Ideal voltage dividers. Stock units made in 10, 25, 50, 75, 100, 160 and 200 watt sizes—in wide range of resistance values. *Write on company letterhead for helpful 96-page Catalog and Engineering Manual No. 40.*

OHMITE MANUFACTURING CO.
4842 FLOURNEY STREET • CHICAGO 44, ILL.

Be Right with OHMITE
RHEOSTATS • RESISTORS • TAP SWITCHES
▲ Mention Item NED-1072 when writing ▲

C-F POSITIONERS

Save 72 Lifts

The Nordberg Manufacturing Co., Milwaukee, have eliminated 72 lifts per unit by using a C-F Positioner on the production job illustrated. These complex weldments (Scavenging air headers for large Diesel engines) have to be "procedure-welded" and formerly required 72 crane lifts which took an average of 20 minutes apiece.

Now, the C-F Positioner moves the weldment through the routine positions under a push button control saving 24 hours crane time, 24 hours crane operator's time, and the same of both a sling man and the welder's time per weldment . . . in other words saving three man-days and one crane-day on each header produced.

C-F Positioners come in 6 sizes—capacities to 30,000 lb. All are pedestal mounted, rotate 360° and tilt to 135° beyond horizontal.

Write for Bulletin WP-22

CULLEN-FRIESTEDT CO.,
1304 S. KILBOURN AVE. CHICAGO, 23, ILLINOIS

▲ Mention Item NED-1073 when writing ▲

Vinylite
TRADE MARK

THIS NEW UPHOLSTERY MATERIAL
had a taxicab for a proving ground

A new VINYLITE Plastic upholstery material that was developed in time to find useful service on jeeps, 'planes, and tanks, was installed in a taxicab, before the war, to test its durability. The taxicab was an excellent proving ground. The illustration below shows the driver's seat, covered with the new VINYLITE Plastic material, just as it appeared after a hundred thousand miles of hard driving. Cab drivers do not spare the upholstery they ride on, yet the seat still looks newly-upholstered.

The answer is the VINYLITE Resin Compound calendered on the upholstery cloth. It is a rubber-like plastic that makes possible upholstery materials that do not oxidize, therefore will not crack upon aging. This new type upholstery possesses remarkable wear and abrasion resistance. Grease does not soil it; soiling is no longer a problem, because it can be wiped clean easily with a damp cloth. And it can be produced in a range of colors, in many unusual surface effects, and in natural leather grains.

The greater wear resistance and durability that VINYLITE Resin Compounds impart to upholstery for today's essential equipment will some day be applied to home and office furniture, motor cars, marine pleasure craft, and other peacetime products. For technical assistance and more detailed information, please write Department 8.

BAKELITE CORPORATION
Unit of Union Carbide and Carbon Corporation
UCC
30 EAST 42ND STREET, NEW YORK 17, N.Y.

Plastics

▲ Mention Item NED-1074 when writing ▲

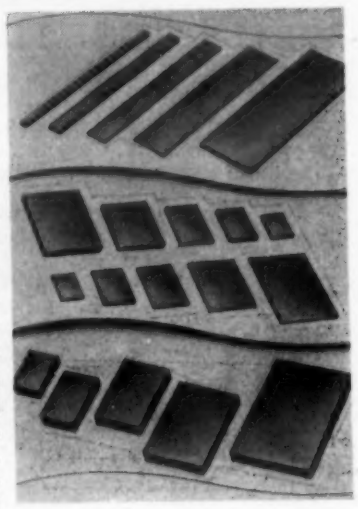
New Processes & Materials

PRINTED TRANSPARENT TAPE

Clearly transparent and having high tensile strength, Filmonized Cellophane tape is available without priorities. Minimum order of nine rolls or multiples of nine rolls is required to obtain this touch-sealing tape imprinted with name, trade mark, instruction or advertising message in black. Message may be printed in one line on tape ½ inch wide by 2592 inches long; in two lines on ¾x2592-inch tape, or three lines on tape measuring 1x2592 inches. This label may be either 1, 1½, 2, 3 or 4 inches in length, including space for tearing off between labels. Rolls fit standard tape dispensers. Made by **International Plastic Corp.**, Morristown, N. J.

▲ Mention Item NED-1075 when writing ▲

DIE BLOCKS & PUNCH PLATES



Designed to aid tool and die makers to standardize and simplify their operations, this line includes ground tool steel, ready-cut die blocks, punch plates and stripper plates. Ground stock is available in standard 18-inch lengths ranging in thickness from ⅛ to 1 inch. It is high grade, carbon, water hardening steel or nonshrink oil hardening steel. Sizes are designed to meet most common daily requirements of tool and die makers. Stock is uniformly annealed, precision ground and easy to machine.

Die blocks of this same grade of steel are finish ground for thickness, have two faces and two sides parallel, and ends are square. Sizes range from 3 x 4 x ½ to 10 x 14 x 1 inches, with 18-inch lengths available in any standard width and thickness. Stripper plates are of cold rolled or machine steel ground to tolerance of .005 inch in numerous workable dimensions and sizes to match die blocks. Sides are parallel and ends square. Made by **Tool Craft Co.**, Dept. N, 1835 Westchester Ave., New York 60, N. Y.

▲ Mention Item NED-1076 when writing ▲

MORTAR CEMENT

Claimed to be outstanding in all characteristics desired by bricklayers, masons and masonry contractors, Atlas Mortar cement features plasticity, yield, water retention, durability and strength. Material is smooth and buttery-like product which spreads and trowels easily. Amount of mortar produced by bag of cement and number of bricks, blocks or tile which can be laid with resultant mortar is high. Cement has low volume change. Color properties are acceptable to trade. Material complies with specifications of Federal government and A. S. T. M. Made by **Universal Atlas Cement Co.**, Chrysler Bldg., 135 E. Forty-second St., New York 17, N. Y.

▲ Mention Item NED-1077 when writing ▲

You will want this timely bulletin on

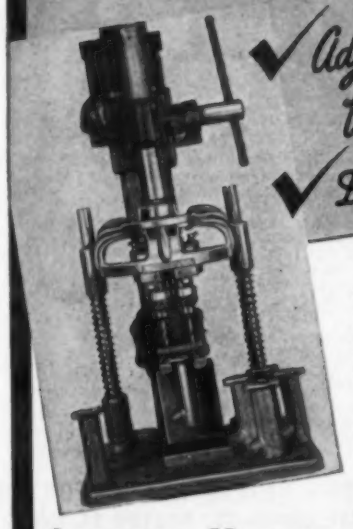
STAR-MO M-2
Improved
TUNGSTEN MOLYBDENUM HIGH SPEED STEEL

SEND FOR BULLETIN NO. SL-2015

Firth-Sterling STEEL COMPANY
McKEESPORT, PA.

▲ Mention Item NED-1078 when writing ▲

TWO SPINDLE
Adjustable
DRILL HEADS
Drill Two Holes At Once



✓ *Adjustable Centers from ½" to 6"*
✓ *Drill Capacity 0" to 5/8"*

Sleeve and overarm types . . . in several sizes. Will double output of any single spindle drill press.

Quickly adjusted to desired drill centers from ½" to 6".

Send for bulletin.

LINDERME MACHINE & TOOL CO., INC.
12263 COYLE AVE., DETROIT 27, MICH.

▲ Mention Item NED-1079 when writing ▲

Felt Serves Industry in Amazing Ways

On land, at sea and in the air—felt fills many vital needs—in fighting equipment itself and in the plants which produce it. Western Felt is extremely versatile . . . it is processed in grades from pillow-soft to rock-hard in an endless variety of shapes and sizes.

If the job demands resiliency, flexibility and compressibility, specify felt—Western Felt . . . it deadens sound, insulates against heat and cold and resists age, heat, oil and water. New uses are being discovered daily.

WESTERN FELT WORKS engineers will gladly assist you in working out any problems concerning the possible use of felt. *Write us today.*

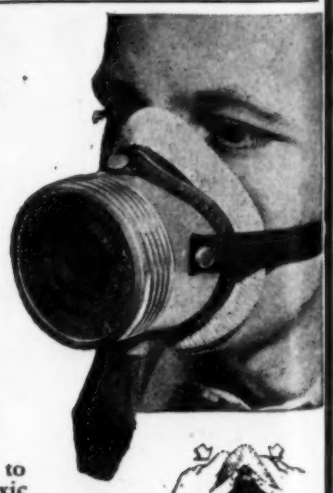
WESTERN FELT WORKS
4035-4117 Ogden Avenue
CHICAGO 23, ILLINOIS
Branch Offices in All Principal Cities

Acadia Synthetics Division, WESTERN FELT WORKS, Processors Synthetic Rubber, Sheets, Extrusions, Molded Parts.

WESTERN *Felt*
Largest Independent Manufacturers and Cutters of Wool, Hair and Jute Felts

▲ Mention Item NED-1080 when writing ▲

MEET EVERY BREATHING HAZARD
with Safety Comfort • Economy



Pulmosan Respirators
for Dusts, Fumes, Gases, Smoke, Paint Sprays

From simple nuisance dusts to heavy concentrations of toxic fumes and gases,—there's a Pulmosan Respirator or Mask correctly designed and constructed to efficiently safeguard your workers.

Every essential is provided in the highest degree—safety, wearing comfort, light weight, ease of cleaning, replaceable parts, durability.

Outline your breathing hazard for recommendation. Write for literature and prices on complete line of Pulmosan Respirators.

FACE FIT FEATURE
Aluminum body may be bent inward or outward as shown, to provide air-tight face fit on any facial contour. Small, medium and large rubber face cushions available for most efficient comfortable fit.

Pulmosan
PULMOSAN SAFETY EQUIPMENT CORPORATION • 176 JOHNSON ST., BROOKLYN 1, N. Y.

▲ Mention Item NED-1081 when writing ▲

BIG NEWS! for BEARING USERS

Non-Scoring
Lowest Friction
Incredible Wear Life
Withstand impact loads and shocks that are beyond the endurance of metal bearings
Non-Corrosive
Acid-Resistant
Easy to lubricate
Made in types for —
Water Lubrication
Grease or Oil Lubrication
Some Self-Lubricated Applications

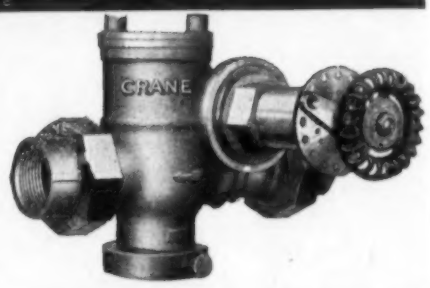
The incredible achievements of GATKE Moulded Fabric Bearings render obsolete all previous yardsticks. Write for booklet that gives characteristics and performance results on typical applications.

GATKE CORPORATION
220 N. LaSalle St. Chicago

▲ Mention Item NED-1082 when writing ▲

Something NEW in Pressure Regulators

CRANE No. 960 BRASS
(IMPROVED DESIGN)



1. For initial steam or air pressures up to 250 pounds, reduced to within 80%. In sizes up to 2 in.
2. It can't wear out because every working part is renewable. Piston operates in removable cylinder liner.
3. Parts can easily be changed for any of four service pressure ranges: 1 to 10, 5 to 30, 20 to 100, 90 to 200 pounds. Setting within each pressure range is by simple hand-wheel adjustment. Operation is completely automatic.
4. Maintains uniform reduced pressure at all times. Pressure cannot build up.
5. New, simplified design; has minimum working parts. Fully accessible for inspection while under initial pressure. Easy to clean.

YOUR PRIORITY AND END USE may entitle you—NOW—to these regulators and other piping items in the complete Crane line. Your local Crane Representative will gladly advise you. Crane Co., General Offices: 836 S. Michigan Ave., Chicago 5, Ill.

CRANE *Anything for Piping Systems —You Can Get It From Crane!*

VALVES • FITTINGS • PIPE • PLUMBING • HEATING • PUMPS

▲ Mention Item NED-1083 when writing ▲

RITEX Automatic VALVE GRINDER

PERFECTLY true, smooth seats can be ground in seconds with this easily handled 18-ounce grinder. Applying or releasing pressure against the valve operates the automatic air control; speeds to 3,000 strokes per minute are readily obtainable. Low air consumption (1 cu. ft. at 100 lbs. pressure) permits use of small, light hose. Swivel sleeve connection allows turning grinder without twisting hose.

PRICE...including bit and vacuum cup for standard unit Flexible chuck for aircraft model, $4.00; collets for all standard valve stems (⅜-in. to ⅝-in.), 35 cents each **$18.50**

TERRITORIES OPEN

Several excellent territories are still open for distributors of Ritex and Decora air tools, spray guns and allied items—a fast-moving, profitable line. Write today for details!

See your DECORA Dealer or write

DECORA MANUFACTURING CO., Inc.
Factory Office: 1819 FIFTH STREET, BERKELEY 2, CALIFORNIA
Chicago Distributor: W. J. MARTIN & CO., 711 South Dearborn Street

▲ Mention Item NED-1084 when writing ▲

New Processes & Materials

FLAME RESISTANT GASKETS

Replacing rubber, this chromate impregnated felt base gasket is resistant to flame and fire, as well as corrosion resistant. Originally intended as substitute for low pressure rubber gaskets required in marine ventilating systems, these units are useful for such applications as joint seals in water, fuel oil and diesel oil systems and gasketing for air lock and refrigerator doors. It may be used where inflammable materials would be hazardous. It can withstand relatively long exposure to salt water without decomposition. It can be furnished either factory precut or it may be cut without special tools from sheet at point of use.

Base is thoroughly felted, low shoddy content wool felt. This is impregnated with chromate pigmented compound which is nondrying, tack and water insoluble. It renders felt flexible, pressure resistant and flame resistant. It will maintain air pressures up to 25 pounds per square inch at normal temperatures. It is unaffected by fuels and has rust inhibiting properties. Dark green in color, material is available in ⅛ and 1/16-inch thicknesses.

It may be used for flange-to-flange joints in drainage, fire main, fresh water, flushing, sprinkling, plumbing, and other systems. It may be employed for watertight or oiltight connections to structures as gasketing for airlock doors, relief valves, jointer doors, refrigerator doors and flame resistant closures. Made by **The Sherwin-Williams Co.,** Dept. E, 101 Prospect Ave. N. W., Cleveland, O.

▲ Mention Item NED-1085 when writing ▲

PLATING ON ALUMINUM

Adherent, uniform copper plating can be applied to aluminum and its alloys after simple preparatory dip at room temperature through development of preplating cleaning solution. This compound may be used in steel, wood or ceramic container and there are no fumes which require venting. Solution has long life, is stable and not sensitive to drag-out, normal contamination or dilution.

Practically any copper electrolyte can be used as plating solution, except sulfate types and those having high degree of acidity. High speed, bright copper can be deposited easily.

Copper plating adapts aluminum to soldering, serves as base for further plating and can be used to build up worn surfaces. Copper plating eliminates insulating aluminum oxide coat and adapts metal for electrical applications. Copper can be polished for pots and pans. Copper plating is also adaptable to decorative or identifying coloring processes.

Preparation of aluminum consists of specified means of aluminum cleaning and preparation, followed by 10 to 30 second immersion in dipping solution and then plating. Developed by Technical Processes Div., **Colonial Alloys Co.,** 2154 E. Somerset St., Philadelphia 29, Pa.

▲ Mention Item NED-1086 when writing ▲

Revolutionary new non-slip finish!

For Lowest Cost per hour of hand protection

Stanzoil Gloves

Made of neoprene, as processed by Pioneer, Stanzoils wear far longer — give 3 to 7 times the service rubber gloves used to give, because they resist attack by oils, acids, caustics. New finish makes them really non-slip. Workers like to wear them — they're comfortable, flexible, safe for sensitive hands. All needed styles, sizes, weights — black or white. Preferred by hundreds of industries. Keep busy hands safe at lower cost — write today for Stanzoil facts.

STANZOIL PIONEER

Synthetic Rubber Division
THE PIONEER RUBBER COMPANY
248 Tiffin Rd., Willard, Ohio, U.S.A.
New York • Los Angeles

OVER 25 YEARS OF QUALITY GLOVE MAKING

▲ Mention Item NED-1087 when writing ▲

Modernize ALL YOUR WASHROOMS Now...

Enjoy the savings that a modern Bradley Washfountain installation will bring you in employee health protection, low upkeep, elimination of excess piping and plumbing connections, plus long-life durability. If some of your washrooms are already equipped with Bradleys—make plans to provide the same adequate, sanitary advantages for all.

You'll find it is "good business" to replace old style washroom fixtures with modern Bradley Washfountains now.

Corner of washroom in Eastern steel plant showing full circle and semi-circular (wall model) Bradley Washfountains

You Get ALL These Advantages

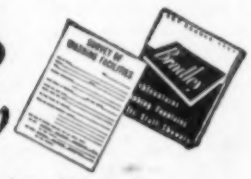
Eight to 10 wash simultaneously, saving time. Each person washes in clean running spray of water—reducing chance of contamination and Dermatitis.

Economy—each Bradley replaces 8 to 10 "single-person" wash basins. Water consumption is cut 70%, piping connections are reduced 85%, and one central sprayhead replaces 16 to 20 faucets.

Increase employee goodwill and morale.

Send today for your copy of Catalog 4308 and Washroom Survey Sheet. BRADLEY WASHFOUNTAIN CO., 2253 W. Michigan Street, Milwaukee 1, Wisconsin.

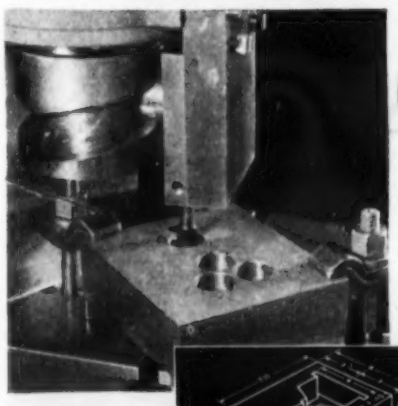
BRADLEY washfountains

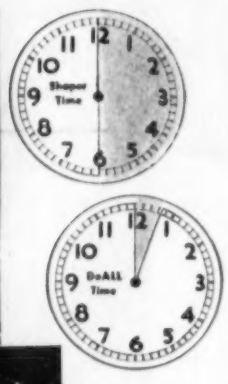


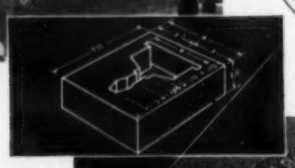
▲ Mention Item NED-1088 when writing ▲

Why use a VERTICAL Shaper?

DoALL DOES THIS JOB IN 1/12 THE TIME







To make a die from thick metal on the Shaper calls for large starting holes. Then, cutting tool moves up and down, removing one chip on each downward stroke.

It takes the DoALL only 1/12 as long to make the same die, and the center is removed in one usable piece.

DoALL Contour Sawing Machines are a "must" in every up-to-date metalworking department . . .

- **For internal and external cutting, filing, polishing**
- **Handles metals, alloys, plastics, laminates, wood**
- **Saws blocks up to a foot thick**
- **Cuts 50 to 100 shapes from stacked sheets at the same time**
- **Produces short runs of "forgings" (3-dimensional shapes)**
- **Makes special tools, parts, cams, templates, etc.**

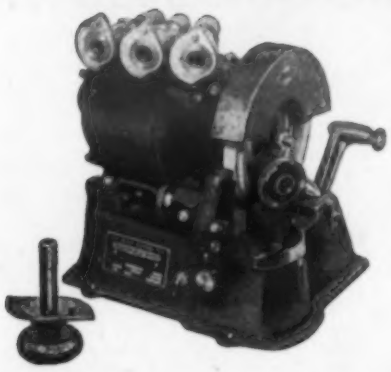
Send for interesting booklet showing DoALL Advantages over 9 Basic Cutting Methods.

CONTINENTAL MACHINES, INC.
1314 S. Washington Ave. Minneapolis 4, Minn.

Sales & Service Offices: Baltimore, Birmingham, Boston, Chicago, Cincinnati, Cleveland, Denver, Detroit, Erie, Grand Rapids, Hartford, Houston, Indianapolis, Los Angeles, Milwaukee, Minneapolis, New York, Orlando, Philadelphia, Pittsburgh, Providence, Rochester, Rockford, St. Louis, San Francisco, Seattle, Syracuse, Toledo, Tulsa.

▲ Mention Item NED-1089 when writing ▲

BLACK DIAMOND
PRECISION DRILL GRINDER



YOU CAN'T LET DOWN NOW

KEEP ALL SMALL DRILLS PRECISION GROUND

SMALL gauge and fractional drills are always ahead of production demands when a Black Diamond Drill Grinder is on the job.

And there is no need to pay skilled labor for grinding small drills when any unskilled apprentice can operate this machine at minimum wage and keep all drills properly ground with uniform lips, at the proper angle and with correct clearance for fast cutting.

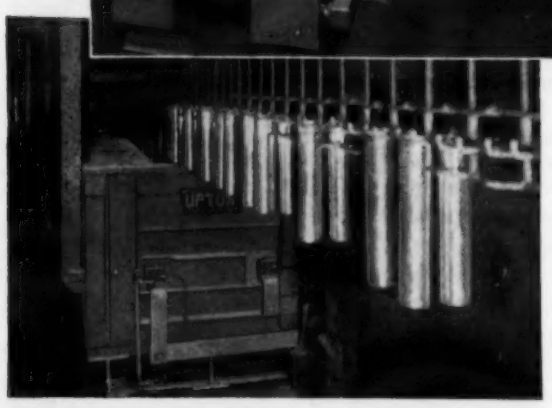
Black Diamond grinding insures precision drilling, reduces drill breakage, saves expensive drill stock and cuts grinding time and expense to the bone.

Moderately priced, a Black Diamond Grinder will actually pay for itself in savings, in a few months, wherever small drills are used singly or in gangs. Write for new bulletin today.

BLACK DIAMOND SAW & MACHINE WORKS, INC.
NATICK, MASSACHUSETTS

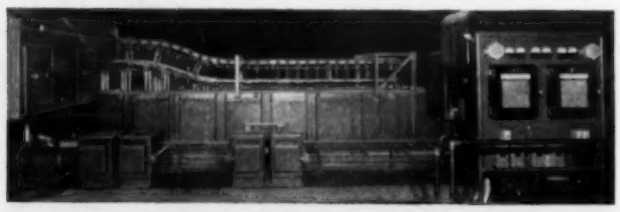
▲ Mention Item NED-1090 when writing ▲

FULL *BRIGHT* ANNEAL of BRASS CARTRIDGE CASES!



Never before has it been possible to "full anneal" brass with such complete lack of oxidation that subsequent pickling is not required.

The Detroit producer of brass cartridge cases insists that these Upton Electric Salt Bath Furnaces "paid for themselves in the first three weeks of operation."



Ask us for complete information on this or any other difficult heat treating problem.

Upton ELECTRIC FURNACE DIV.
COMMERCE PATTERN FOUNDRY AND MACHINE COMPANY
7439 MELVILLE AT GREEN DETROIT 17, MICHIGAN

▲ Mention Item NED-1091 when writing ▲

New Processes & Materials

PLYWOOD ADHESIVE

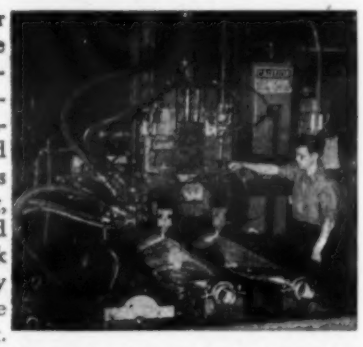
Bonding and assembly time are claimed to be reduced in producing plywood through use of Amberlite PR-245 adhesive. This resin is thermosetting phenol formaldehyde in dry powder form which is readily soluble in water, alcohol and mixtures of the two. With all hardwood species, this adhesive assures durable bonds, moderate flow during cure, fast cure at ordinary bonding temperatures and ability to cure at temperatures as low as 160 degrees Fahr. This fast curing property substantially increases output of hot press and lowers glue line cost.

In bonding either plywood or laminated constructions, resin is used with Catalyst Q-108 to accelerate rate of cure. Normally, spread of liquid adhesive in flat plywood may range from 25 to 45 pounds per 1000 square feet of glue line. Either single or double spreading may be used. Permissible limits in assembly time for various applications range from minimum closed assembly period of 30 minutes to maximum open interval of several days, thus permitting flexibility of spreading and pressing schedules in plant.

Adhesive may be used with veneer moisture contents ranging from 4 to 10 per cent with uniform success. Moderate flow of properties are of advantage in eliminating starved joints often caused by insufficient assembly time or high moisture content veneers. It is adaptable to laminating of heavy timbers where higher bonding temperatures are unobtainable and where durability is important. Made by **Resinous Products & Chemical Co.**, 222-1 W. Washington Sq., Philadelphia, Pa.

▲ Mention Item NED-1092 when writing ▲

PROPELLER MACHINING



Machining of propeller blades is claimed to be speeded up through application of Turchan Follower attachment to standard planer. Original hand job of machining blades involved hand milling, rough grinding and hand finishing operations. Work is performed automatically in one-twentieth of time by use of attachment. Using model as guide, attachment is shown planing irregular surfaces on forged member of two-piece brazed propeller blade, finishing it to tolerance within .008 inch per inch measured transversely. Cut is made in SAE 4340 steel at speed of 40 feet per minute. Attachment made by **Turchan Follower Machine Co.**, 8261 Livernois Ave., Detroit 4, Mich.

▲ Mention Item NED-1093 when writing ▲

SYNTHETIC BELT DRESSING

Originally developed for natural rubber belting, standard Goodrich dressing is applicable to new GR-M synthetic rubber belting. Synthetic belting will not absorb dressing as quickly as natural rubber, consequently care must be taken not to apply more than is necessary, as it may result in slippage. Use of dressing allows belt to produce greater horsepower and operate under load with less tension than belt without dressing. Made by **The B. F. Goodrich Co.**, Dept. E, 500 S. Main St., Akron, O.

▲ Mention Item NED-1094 when writing ▲

Huskie Package of Air Power

Your Worthington Huskie can be running within a few days after delivery. Automatic alignment — no erecting engineer. No elaborate foundations. 75% less foundation space than horizontals of the same capacity! Check all advantages — higher speeds, variable capacity control, Feather* Valves, accessibility, adaptability to many drives — described in Bulletin L-667-B1. Write us. *Worthington Pump and Machinery Corporation, Buffalo Compressor Division, Buffalo, N. Y.*

*REG. U. S. PAT. OFF.

No Other Compressor Will Outperform a Worthington Huskie

WORTH BEHIND THE NAME WORTHINGTON

AC4-20

▲ Mention Item NED-1095 when writing ▲

VITALITY PARASITES THESE CANS

...PROPER HANDLING PLATFORMS WILL HELP PREVENT DRAIN ON WORKER ENERGY

Our representative will be glad to discuss with you the possibilities of safer-faster production with special superstructures designed for handling heavy materials on production lines.

PROTECT EMPLOYEES
REDUCE WORKER FATIGUE
BUILD BETTER MORALE

Write For Bulletin 40

IRONBOUND BOX & LUMBER CO.
Materials - Handling Division
55 HOFFMAN PLACE HILLSIDE, NEW JERSEY

SKID PLATFORMS | SEMI-LIVE SKIDS | FLOOR TRUCKS

▲ Mention Item NED-1096 when writing ▲

TO AIRPAINT THOSE WAR AND POST-WAR PRODUCTS, PICK PAASCHE

A 5-POINT FAVORITE with Finishing Men!

PAASCHE "CU" *High Production* AIR BRUSH

1—FASTER—uniform, complete coverage at top speed.
2—Easier-Handling due to light weight, perfect balance, comfortable grip.
3—Finer Atomization under complete control.
4—Sturdier construction.
5—Most adaptable, due to Multipleheads.

Fastest method of applying finishing materials is one of the chief reasons this Paasche "CU" Airbrush has the preference in factories, shipyards, on maintenance work, etc. For detailed bulletin, write

Send for Catalog Showing Complete Line Manual or Automatic Paasche Airpainting Equipment.

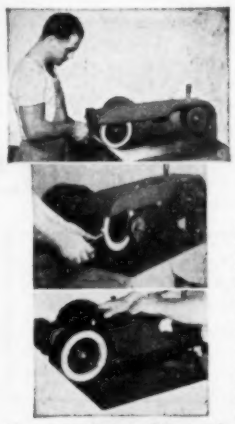
PAASCHE AIRBRUSH CO.
1949 Diversey Parkway Chicago 14, Ill.
Paasche Airbrush (Canada) Ltd., 110 Elm St., Toronto

Paasche AIRPAINTING EQUIPMENT

▲ Mention Item NED-1097 when writing ▲

PORTER-CABLE
Bench Belt-Grinder
A SINGLE TOOL OF MANY USES

for JOBBING Machine Shops and REPAIR Departments



LINE CONTACT GRINDING
Front pulley serves for line contact grinding—replaces grinding wheel for many types of jobs—Faster! Cheaper!
Resiliency of pulley enables inexperienced operation to obtain smooth surface.

BURRING GEARS
Gears are burred quickly, in many cases 10 to 15 times faster! Wire brush for final finish. Flat sides of gear cleaned up quickly by touching to belt on platen. Works better than set-up wheel for polishing.

GRINDING FLATS ON MOVABLE PLATEN
Platen easily set in upper or lower position, enabling many common machine operations to be performed. Often takes place of milling, shaping, surface grinding.

Greater Heat Dispersion! Faster Cutting! Economical!

Write Today For Complete Information About This Time And Money-Saving Tool!

PORTER-CABLE MACHINE CO. 1710-2 N. Salina St. Syracuse 8, N. Y.

▲ Mention Item NED-1098 when writing ▲

1 man + 1 S-A car puller = 1 switch engine!

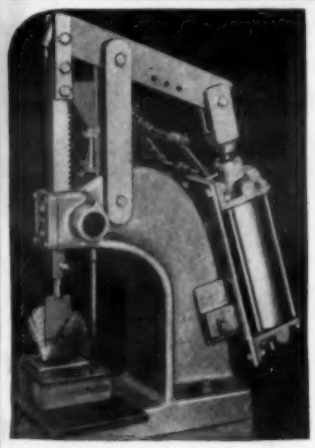
Pulling and spotting loaded freight cars is easily and simply accomplished by one man using an S-A Car Puller. No more waiting for switch engines or calling men off productive jobs to push freight cars. Just snub the free end of a pulling rope from the cars around the powerful electric capstan—a one man job—and the Car Puller does the rest. . . . *Write for Data Book 1339.*

STEPHEN S-ADAMSON MFG. CO.

Tellevel—Bin Level Controls · Car Loaders · SealMaster Ball Bearings · Car Pullers · Winches · Saco Speed Reducers

12 RIDGEWAY AVE., AURORA, ILLINOIS

▲ Mention Item **NED-1099** when writing ▲



Small arbor press, to crimp wire, powered by a Model A Cylinder mounted on hinged base.

Save Manual Effort **with NOPAK Cylinder Power**

The Milwaukee Brush Mfg. Co. has converted about 20 arbor presses and other simple machines from manual to air operation. This step has helped to multiply production *ten-fold* with only *twice* as many workers. Foot control valves are used where possible to leave operators' hands free to manipulate dies and parts for speedy assembly.

Perhaps you can modernize some of your equipment by applying air or hydraulic power. Write for Bulletin 82A.

GALLAND-HENNING MFG. CO.
2755 S. 31st STREET MILWAUKEE 7, WISCONSIN

NOPAK *Representatives in Principal Cities*
VALVES and CYLINDERS
DESIGNED for AIR or HYDRAULIC SERVICE

▲ Mention Item **NED-1100** when writing ▲

for fast . . . . low cost material handling

use the *"Buda Chore Boy!"*

This modern, powerful, speedy truck will quickly pay for itself in saved manhours—time and operating expense.

Inexperienced operators efficiently handle heavy loads around plants—docks—railroad yards and shops etc. with ease and safety. No batteries to re-charge. *Write today for bulletin.*

THE BUDA COMPANY
15419 Commercial Ave., Harvey, Chicago Suburb, Illinois

▲ Mention Item **NED-1101** when writing ▲

NEW Literature AND Catalogs

WIRING SYSTEM—18-page illustrated bulletin No. 33 describes in detail design possibilities inherent in AMP simplified wiring and gives information on connector blocks, multiple connectors, connector strips, bus bars, terminals and other products which are available embodying AMP knife-disconnect design—issued by Aircraft-Marine Products Inc., 1591K North Fourth St., Harrisburg, Pa.

▲ Mention Item **NED-1102** when writing ▲

SURFACE-TREATED SHEET STEEL—Illustrated booklet points out design and fabricating advantages of ARMCO cold rolled Paintgrip special surface-treated sheet steel that takes and preserves paint—issued by The American Rolling Mill Co., Middletown, O.

▲ Mention Item **NED-1103** when writing ▲

AIR FILTERS—Three illustrated bulletins Nos. AF-44-1, PF-44-1 and EX-44-1 cover complete line of Agitair air filters and exhausters for air conditioning, ventilating, heavy-duty industrial and grease removal applications—issued by Air Devices, Inc., Dept. D., 17 E. Forty-second St., New York 17, N. Y.

▲ Mention Item **NED-1104** when writing ▲

VACUUM PUMP—12-page illustrated catalog No. 80 is descriptive of rotary-piston high vacuum pumps for use in air conditioning, ceramics, drugs, electrical products, food products, laboratories, metallurgical and miscellaneous industries—seven standard sizes are shown—issued by Beach-Russ Co., 50 Church St., New York 7, N. Y.

▲ Mention Item **NED-1105** when writing ▲

GRINDING MACHINE—4-page illustrated folder announces Bura-way grinder—this grinder combines new principles in design of cutting tools with machine which generates, reproduces and maintains relief angles constant as measured in direction of feed—specifications are listed—issued by Norton Co., 200 New Bond St., Worcester 6, Mass.

▲ Mention Item **NED-1106** when writing ▲

AIR QUENCHING COOLER—16-page illustrated bulletin CO-3 describes air quenching, inclined grate cooler designed and built principally for production of cement clinker of high glass content to reduce delayed expansion and to obtain other advantages—cooler has also been applied successfully to cooling of ores, lime, dolomite and similar materials—issued by Fuller Co., Fuller Bldg., Catasauqua, Pa.

▲ Mention Item **NED-1107** when writing ▲

CUTTING TOOLS—12-page illustrated catalog No. 44 contains complete specifications and prices, as well as detailed descriptions of entire line of adjustable cutting tools—issued by Robert H. Clark Co., 9330 Santa Monica Blvd., Beverly Hills, Calif.

▲ Mention Item **NED-1108** when writing ▲

as new as 1945

As up-to-the-minute as 1945—the new Cleveland Speedaire Unit embodies the finest of Cleveland's 30-year achievements in Worm Gearing.

More horsepower per dollar. Speedaire is fan-cooled—forcing a high-velocity air stream over the surfaces of the oil reservoir—eliminating excess heat—delivering up to twice the capacity of standard worm gear units of equal frame size at usual motor speeds—and giving you more horsepower for your dollar.

More applications on your equipment. Apply Speedaire economically where other types have been used heretofore. Wire or 'phone and we will send a nearby Representative.

The Cleveland Worm & Gear Company,
3283 East 80th Street, Cleveland 4, Ohio.
Affiliate: The Farval Corporation, Centralized Systems of Lubrication
In Canada: PEACOCK BROTHERS LIMITED

Cleveland **SPEEDAIRE** FAN COOLED *Worm Gear Reduction Units*

▲ Mention Item **NED-1109** when writing ▲

Quick Starts . . Quick Stops . . Smooth Acceleration

with ALL-ELECTRIC ADJUSTABLE-SPEED DRIVE . . FOR A-c. CIRCUITS

V*S Drive is direct, space saving, flexible; gives speed control convenience without limitations. Available in Rotating System (1 to 100 Hp.), or Electronic System (1 to 5 Hp.). Write for Bulletin 311.

RELIANCE ELECTRIC & ENGINEERING COMPANY
1082 IVANHOE ROAD • CLEVELAND 10, OHIO
Sales Offices in Principal Cities

▲ Mention Item **NED-1110** when writing ▲

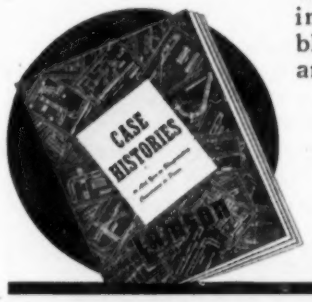
2 2/3 Day's Production *Every Day!*

LAMSON *Conveyors*

Nearly Tripled the Output of Magneto Coils for Aircraft...

MORE PLANES! Every factory contributing to aircraft production heard the plea. A leading maker of magneto coils asked Lamson Engineers to shorten assembly time from his low of 40 minutes. A Lamson Carrousel Conveyor — running at a constant speed — moving work in production — achieving an even flow — increasing efficiency — eliminating confusion and pile-ups around machines — cut to 15 minutes the assembly record of 40!

LAMSON UNIFICATION didn't stop there! A slow-moving Overhead Conveyor carries the assembled magneto on a 7½ hour test run, delivers it to another Carrousel Conveyor for disassembly, inspection, reassembly, final-inspection, and shipping.



This, and many other installations, are illustrated and described in the free book we've prepared for you. Mail coupon today!

LAMSON CORPORATION ARMY E NAVY
550 Lamson St., Syracuse 1, N. Y.

Yes — I'd like to read the FREE BOOK "Case Histories to Aid You in Blueprinting Conversion to Peace." Please send my copy to —

Name..... Position.....
Company.....
Address.....
City..... State.....

▲ Mention Item **NED-1111** when writing ▲

"PUSH AND PULL LOCK" CLAMP

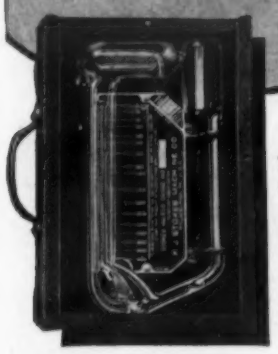
Especially well suited for locating and indexing, fills a definite need on many jigs and fixtures. Work end (plunger rod) is tapped to receive standard bolt, which provides quick adjustment to suit the job at hand. Quickly converted from "push" to "pull" action or vice versa.

Bulletin No. 43 details this and many other labor saving De-Sta-Co toggle action clamps. Send for your copy.

DETROIT STAMPING CO.
Established Over 25 Years
360 Midland Ave • Detroit 3, Mich.

▲ Mention Item NED-1112 when writing ▲

Stokes VACUUM GAUGES
(Patented McLeod Type)
Are Always Accurate



Require No Calibration

• RAPID READINGS in 2 to 5 seconds.

• ACCURACY is permanent—unaffected by the presence of all gases, including hydrogen, and condensable vapors including water.

• PORTABLE OR PERMANENT MOUNTING. Rugged, compact, light in weight. Simple to operate—just tip and read.

• THOUSANDS IN USE.

TWO MODELS
A. 0 to 5000 microns
B. 0 to 700 microns (with readings to 1/10 micron)

F. J. STOKES MACHINE CO.
5964 Tabor Road Philadelphia 20, Pa.

Stokes *High Vacuum*
PUMPS • GAUGES • EQUIPMENT

▲ Mention Item NED-1113 when writing ▲

WANT MORE MANPOWER? MORE TIME? MORE PRODUCTION?

Here's what EXECUTONE —the Modern System of Business Inter-Communication can do for you!

1. **EXECUTONE** stabs through space like a flash of light . . . carries your voice from one department to another and brings back an immediate response!
2. **EXECUTONE** enables you to get important figures and information from remote departments the moment you want it.
3. **EXECUTONE** improves your entire telephone service by taking the load of "inside" calls off your switchboard.
4. **EXECUTONE** eliminates time-consuming "waits" while office phones are busy—when employees can't be found—while slow-footed messenger boys are making the rounds.

You owe it to yourself to investigate the full time and money-saving possibilities of EXECUTONE—the "inter-com" system selected by the U. S. Navy for many of our fighting ships!

SEND FOR FREE BOOKLET TODAY!
Executone
INTER-COMMUNICATION SYSTEMS
Service in principal cities

EXECUTONE, Inc., 415 Lexington Ave., N. Y. 17, N. Y.
Send me your Free Booklet B-11 and Survey Chart.
FIRM NAME_____
ADDRESS_____
BY_____

For the Future of Your Company and Your Employees BUY WAR BONDS

▲ Mention Item NED-1114 when writing ▲

New Literature—Continued

DIESEL ENGINE HOSE—4-page illustrated bulletin No. 2000 contains information on welded all steel diesel exhaust hose for high temperatures, vibration, expansion and contraction and low pressure—charts show standard sizes and recommended minimum effective lengths—issued by Seamlex Co., 27-27 Jackson Ave., Long Island City 1, N. Y.

▲ Mention Item NED-1115 when writing ▲

BALL BEARINGS—4-page illustrated bulletin No. 44 shows complete and integrated line of miniature ball bearings for instrument, industrial and special uses—dimensions and full specifications are tabulated—issued by Miniature Precision Bearings, 13 Kingsbury St., Keene, N. H.

▲ Mention Item NED-1116 when writing ▲

HOLE PUNCHING SYSTEM—32-page illustrated catalog CD discusses CD hole punching system—system is made up of hole punching units, templates, iocator rings, adjustable stops, feed rails and drill templates—with these parts, making of perforated die is simple assembly job—issued by Wales-Strippit Corp., 363 Payne Ave., North Tonawanda, N. Y.

▲ Mention Item NED-1117 when writing ▲

DISTRIBUTION TRANSFORMERS—Illustrated bulletin No. B6333 covers expanded line of distribution transformers designed to withstand complete submersion in water—units are intended for use in underground vaults and similar locations—issued by Allis-Chalmers Mfg. Co., 6900 Norman St., Milwaukee 1, Wis.

▲ Mention Item NED-1118 when writing ▲

INDUSTRIAL SANITATION—68-page illustrated catalog, "The Scope of Sanitation", contains information on prevention of occupational diseases, proper washroom and plant sanitation and pest control—proper equipment to assure complete sanitation is described—issued by West Disinfecting Co., Dept. DE, 42-16 West St., Long Island City 1, N. Y.

▲ Mention Item NED-1119 when writing ▲

TACHOMETERS—8-page illustrated bulletin No. G-448 describes in detail speed indicating and speed recording tachometers offered as accessories for line of variable speed drive units—both mechanical and electrical types are shown—issued by Reeves Pulley Co., 1000 N. Wilson St., Columbus, Ind.

▲ Mention Item NED-1120 when writing ▲

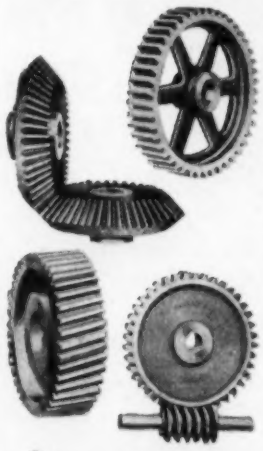
NON-FERROUS FORGINGS—4-page illustrated periodical publication, "Non-Ferrous Forgings Digest," has inaugural issue dated October—bulletin contains descriptive material of various types of forgings and their manifold uses—issued by The Brass Forging Association, 420 Lexington Ave., New York, N. Y.

▲ Mention Item NED-1121 when writing ▲

RELAYS & SOLENOIDS—4-page illustrated bulletin No. S-R gives details and operating characteristics of eight relays and eight solenoids—charts list operating data—issued by Guardian Electric Mfg. Co., Dept. S-R, 1626 West Walnut St., Chicago 12, Ill.

▲ Mention Item NED-1122 when writing ▲

"Industrial"
CUT GEARS • CUT SPROCKETS



. . . make your drives behave!

Because:

They're precision cut on most modern machines.

Minutely inspected for tooth profile, space, pitch and hardness . . . guaranteeing quality.

Our vast facilities, skilled personnel and indivudualized service will please you. Let us assist you with your Gear, Sprocket or Rack problems.

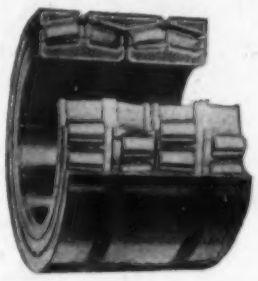
Write for 272 page Catalog and Engineering manual.

INDUSTRIAL GEAR MFG. CO.
4541 VAN BUREN STREET
CHICAGO 24, ILLINOIS
THE PLANT THAT QUALITY AND SERVICE BUILT

▲ Mention Item NED-1123 when writing ▲

ANTI-FRICTION BEARINGS FOR HEAVY-DUTY APPLICATIONS

Your equipment may call for the use of custom-built Torrington Bearings—straight roller, tapered roller or ball. Again, your requirements may be met through the use of the Type NCS Needle Bearing which is adaptable to many applications which demand compactness and high load capacity.



Consult the engineers of Torrington's Bantam Bearings Division. Their long and varied experience in the design and manufacture of anti-friction bearings (up to 12 feet in diameter) covers bearing applications in every major industry.

Torrington also offers a complete line of Needle Bearings for virtually every radial load and design requirement.

TORRINGTON BEARINGS
Straight Roller • Tapered Roller • Needle • Ball
The Torrington Company • Bantam Bearings Division
South Bend 21, Indiana

TORRINGTON BEARINGS

▲ Mention Item NED-1124 when writing ▲

CHICAGO "Safety Plus" Socket Screws

A Definitely Better Product

After 73 years experience in the manufacture of fine threaded products, The Chicago Screw Company is well qualified to fill your needs.
If your product requires the use of socket screws, specify Chicago "SAFETY PLUS"—they are definitely better.

These Fine Products are sold only thru Authorized Distributors

ARMY E NAVY
THE CHICAGO SCREW CO.
1026 S. Homan Ave. Chicago 24, Ill.

▲ Mention Item NED-1125 when writing ▲

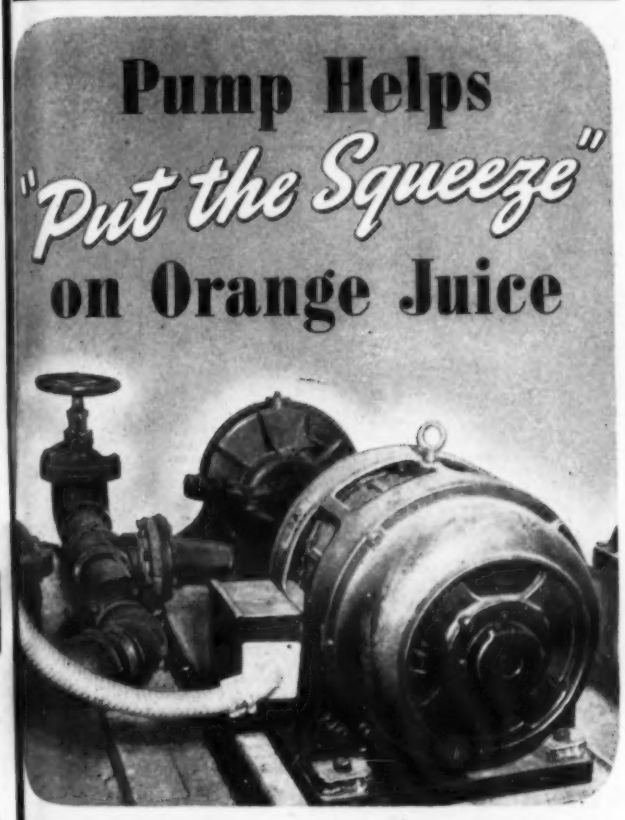
Again—
DOWN GO PRICES ON SUPER *Milling Cutters*

SUPER has done it again! For the second time in less than a year, prices on Super Carbide Tipped Milling Cutters have been reduced! And it is a big reduction, too . . . again made possible because of an increased demand for these fast, economical cutters that has resulted in increased production and greater manufacturing economies. Write TODAY for a price list showing these new low prices. Then you'll want to place your orders immediately for these Super Carbide Tipped Milling Cutters that now, more than ever, will step down your costs while they are stepping up your production.

SUPER TOOL COMPANY
21630 Hoover Road, Detroit 13, Michigan ★ 4105 San Fernando Road, Glendale 4, California

▲ Mention Item NED-1126 when writing ▲

▲ Mention Item NED-1127 when writing ▲



IN the world's largest plant of its kind, this 4" split-case centrifugal pumps rivers of orange juice into a 75,000 gallon overhead tank. Working with other Fairbanks-Morse Pumps, Scales, and Motors, it helps the Florida Citrus Growers Co-op economically can over four million bushels of fruit a year.

It is probable that Fairbanks-Morse Pumps can save money for you, too. For they offer this unique combination of important advantages:

- Sound and practical design
- Rugged and simple construction
- Inexpensive installation
- Economical operation
- Low maintenance cost
- Reliable and efficient performance
- Longer life
- Adaptability to all conditions
- Steady flow at uniform pressure
- Reliable engineering service
- Standardized parts replacement
- Quality control
- Protective guarantee
- Purchase of complete unit from one responsible manufacturer

Let our engineers help you now with your immediate or future pumping problems. No cost, no obligation. Write Fairbanks, Morse & Co., Fairbanks-Morse Building, Chicago 5, Illinois.

BUY MORE WAR BONDS

Fairbanks-Morse

A name worth remembering

Diesel Locomotives • Diesel Engines • Generators
Motors • Pumps • Scales • Magnetos • Stokers
Railroad Motor Cars and Standpipes • Farm Equipment

▲ Mention Item NED-1128 when writing ▲

New Literature—Continued

CRUCIBLE MELTING — 16-page illustrated "Crucible Melters' Handbook" is treatise on storing, handling and use of crucibles—includes tables of standard sizes, melting points of various metals, composition of steam or red brass alloys and tabulation of composition and physical properties of aluminum sand casting alloys—issued by Crucible Manufacturers' Association, 90 West St., New York 6, N. Y.

▲ Mention Item NED-1129 when writing ▲

BORING & DRILLING MACHINES—22-page illustrated bulletin No. 1000 covers Dreadnaught horizontal boring, drilling and milling machines—information is given on both table type and floor type and their accessories—issued by The Ohio Machine Tool Co., Davis St., Kenton, O.

▲ Mention Item NED-1130 when writing ▲

INDUSTRIAL TAPE—Multi-page folder No. 2001 gives suggestions on many uses of Mystik Self-Stik waterproof cloth tape—booklet is available free along with sample roll of this tape—issued by Chicago Show Printing Co., 2631 N. Kildare Ave., Chicago, Ill.

▲ Mention Item NED-1131 when writing ▲

FACE SHIELDS—4-page illustrated folder is descriptive of V-1 Protecto-Shields for light duty operations—shields provide safety for both front and sides of face with ample room for prescription spectacles—issued by Willson Products Inc., 207 Thorn St., Reading, Pa.

▲ Mention Item NED-1132 when writing ▲

ETHYL CELLULOSE—Two technical booklets are entitled, "The Properties and Uses of Ethyl Cellulose" and "Ethyl Cellulose Formulations with Resins and Plasticizers"—former lists and describes characteristics of ethyl cellulose—latter is intended to eliminate unnecessary research by providing basis for formulation of ethyl cellulose lacquers, adhesives, plastics and hot-melt coatings—issued by Hercules Powder Co., Wilmington, Del.

▲ Mention Item NED-1133 when writing ▲

GRINDING & FINISHING—Four illustrated bulletins describe 3-M method of grinding and finishing—bulletins contain many close-up shop photographs covering multitude of grinding and finishing operations—issued by Minnesota Mining & Mfg. Co., St. Paul 6, Minn.

▲ Mention Item NED-1134 when writing ▲

INDUSTRIAL HEATING—18-page illustrated booklet is entitled "Portfolio of Outstanding Engineering in Industrial Heating"—booklet describes direct-fired warm air method of heating and shows many of war structures which are heated by this method—issued by Dravo Corp., Dravo Bldg., 300 Penn Ave., Pittsburgh 22, Pa.

▲ Mention Item NED-1135 when writing ▲

TOOLS—92-page illustrated catalog No. 44 covers full line of end mills, chucking reamers, continuous pilot counterbores, holders and other products, listing full specifications and prices—additional sections are devoted to special purpose tools—copies will be sent on request on company letterheads—issued by Putnam Tool Co., 2981 Charlevoix Ave., Detroit 7, Mich.

▲ Mention Item NED-1136 when writing ▲

IRIDITE prevents corrosion on zinc or cadmium surfaces

IRIDITE is an easy-to-apply, corrosion-resistant agent that unites chemically with zinc or cadmium surfaces, greatly increasing their field of usefulness as protective coatings. Iridite does not alter dimensions of finely machined or delicately articulated parts . . . will not break, chip or peel under bending or twisting. Iridite meets exacting Government and industrial specifications . . . both as a final finish and paint base. Colors currently available are blues, greens, maroons, bronze, olive drab and black.

Iridite is applied by simple dipping in the Iridite solution immediately after the last rinse tank in the plating line. Time: 10 to 60 seconds, at normal shop temperatures. By modifying the strength of the solution, the process can be adjusted to full automatic machine cycles and existing production schedules. A hot-water rinse reduces the drying process to a few seconds. Parts can be handled freely as soon as dry. The uniform colors produced speed up inspection—reduce rejects.

Why not test Iridite in your own laboratory, with your own products . . . present or postwar . . . in mind. Write today for a sample panel for testing, together with full information on this amazing new corrosion-resistant final finish and paint base. Be sure to specify whether you want a zinc or cadmium-plated panel.

RHEEM RESEARCH PRODUCTS, INC.
IRIDITE
Pennsylvania Ave., Baltimore, 17, Md.

▲ Mention Item NED-1137 when writing ▲

This is Type F½, a speedy, low-headroom, welded-steel-frame hoist for loads up to one ton. Simple, sturdy construction includes a fully enclosed, splash-lubricated, alloy-steel gear train, and oversize automatic load brake. Quality-built throughout in all mounting types for long life. Send for Bulletin No. 800NED.

(For loads up to 15,000 lbs., ask for Bulletin No. 801NED)

R & M Electric Hoists make light of muscle-tiring tasks; keep everything orderly and on the move for volume at a profit. In the hundreds of durable, dependable models there is one exactly right for every job. Send for literature. Representatives in 25 cities are at your service.

ROBBINS & MYERS, INC.
HOIST & CRANE DIVISION, SPRINGFIELD, OHIO

▲ Mention Item NED-1138 when writing ▲

▲ Mention Item NED-1139 when writing ▲

2 More Reasons Why They're Called "Doggone Good Tools"

Two good reasons, too, why you should check first with Duro for hand tools needed in your plant. Insofar as is consistent with our commitments for supplying military requirements, we are making every effort to supply tools essential to Industry.

Write Today For Free Data Pages

Tell us what you need in hand tools . . . we will send you data pages and information on the tools we are in position to supply.

Duro Metal Products Co., 2649 N. Kildare Ave., Chicago 39, Illinois

DURO TOOLS (HAND TOOL DIVISION)
The Mechanic's Best Friend
OVER A BILLION BUILT SINCE 1916
ALSO MAKERS OF DURO MACHINE TOOLS

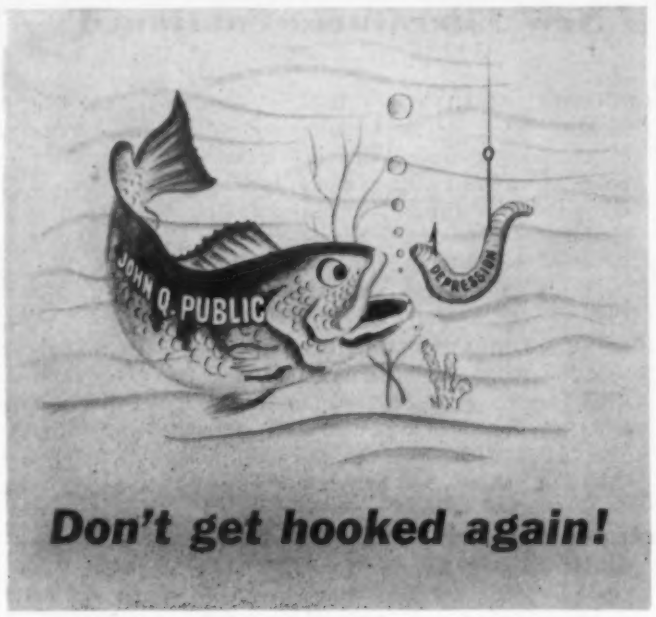
▲ Mention Item NED-1140 when writing ▲

★ The DEMPSTER-DUMPSTER does 4 times the work with ¼ the Gas, Tires, Men

The Dempster-Dumpster system of handling materials in industrial plants, of every description, is a simple story. One truck chassis equipped with a Dempster-Dumpster Hoisting Unit will do the work of four or more trucks where loading is done by hand, the result of which is tremendous savings in Trucks, Gas, Tires and Men. Detachable bodies, the number to suit your requirements, are loaded at various points while truck is always busy; 1—Hoisting loaded bodies to carrying position; 2—Hauling and dumping material, under full control at driver's seat; 3—Returning empty body to place, and moving on for another load. Bodies of 1½ to 10 cu. yd. capacities are available in many different types. There's never an idle moment for the Dempster-Dumpster. It is revolutionizing materials handling in plants throughout the nation. Write for full details Now.

DEMPSTER BROTHERS INC.
KNOXVILLE 17, TENN.

▲ Mention Item NED-1141 when writing ▲



Don't get hooked again!

Only yesterday (YOU remember!) men sold apples on the streets, saw their furniture go back to the store, lost their houses, lost their farms. Will it happen again? It needn't.

But to avoid the kind of depression we had after the last war—WE MUST HEAD OFF INFLATION NOW! And the best way to do that is to save your money.

When you don't buy a thing you can get along without . . . *that's helping to prevent inflation.* When you decide this is a bad time to ask more money for the things you sell or to fight for a raise . . . *that's helping to prevent inflation.* When you pay up all your debts . . . *that's helping prevent inflation.* AND SOMETHING MORE!

It's the best way to protect yourself against a depression if one should occur, *and* the best way to prepare yourself for tomorrow's opportunities if times are good.

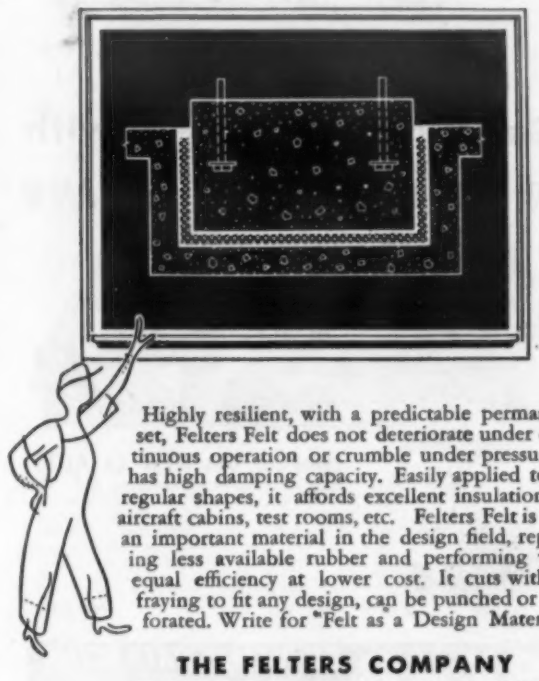
The smart thing today is to save, not splurge. Don't get hooked again!

4 THINGS TO DO to keep prices down and help avoid another depression

1. Buy only what you really need.
2. When you buy, pay no more than ceiling prices. Pay your ration points in full.
3. Keep your own prices down. Don't take advantage of war conditions to ask more for your labor, your services, or the goods you sell.
4. *Save.* Buy and hold all the War Bonds you can afford—to help pay for the war and insure your future. Keep up your insurance.

A United States War message prepared by the War Advertising Council; approved by the Office of War Information; and contributed by this magazine in cooperation with the Magazine Publishers of America.

FELTERS FELT is Not Adversely Affected by *Age, Heat, Water, Oil*

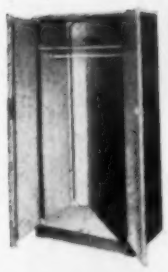


Highly resilient, with a predictable permanent set, Felters Felt does not deteriorate under continuous operation or crumble under pressure—has high damping capacity. Easily applied to irregular shapes, it affords excellent insulation for aircraft cabins, test rooms, etc. Felters Felt is also an important material in the design field, replacing less available rubber and performing with equal efficiency at lower cost. It cuts without fraying to fit any design, can be punched or perforated. Write for "Felt as a Design Material."

THE FELTERS COMPANY
210-M SOUTH STREET, BOSTON 11, MASS.

▲ Mention Item NED-1148 when writing ▲

FOR THE DURATION



the answer is... LYON SHOPROBE, CABINETS and LOCKERS *Engineered in Wood*

Steadily increasing sales wherever these units are on display . . . and big repeat orders for plants and offices in which they have met the test of hard service . . . prove the sound construction and practical design of Lyon Wood Cabinets, Wardrobe Cabinets, "Shoprobes" and Lockers.

All of these units are engineered to provide maximum storage facilities in minimum floor space. Their design and finish makes them a suitable match for any steel equipment you may now have.

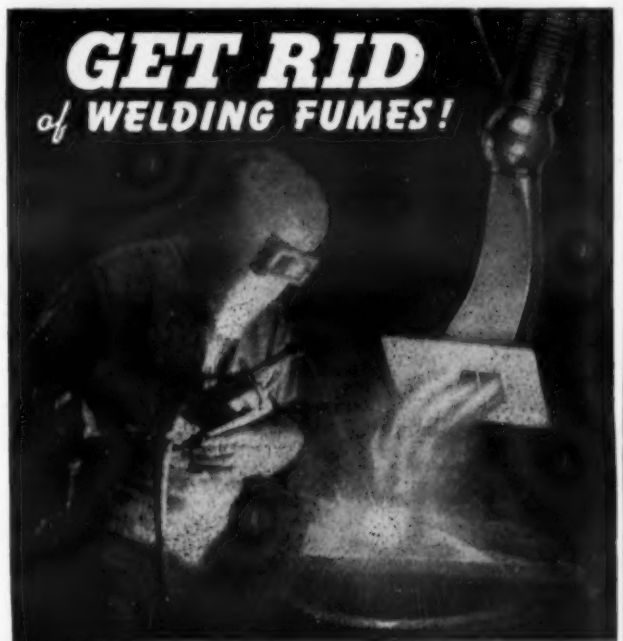
Write for Catalog giving Prices and full information on sizes and construction details.

WHAT ABOUT POST-WAR? Do your post-war products include sheet steel or aluminum? Check Lyon's manufacturing and designing facilities.

LYON
METAL PRODUCTS, INCORPORATED
General Offices: 222 Madison Avenue, Aurora, Illinois
Branches and Distributors in All Principal Cities

▲ Mention Item NED-1142 when writing ▲

GET RID of WELDING FUMES!



The powerful suction created by Ruemelin Fume Collectors draws out both noxious gases and smoke at the source. Cleans shop air with minimum loss of building heat. Covers maximum territory. Guards employee health. More than 1,000 serving war plants all over the nation. Shipped completely assembled, easy to install.

Write for Bulletin 37-C

RUEMELIN MANUFACTURING CO.
3883 N. PALMER STREET MILWAUKEE 12, WIS.
Manufacturers and Engineers, Sand Blast and Dust Collecting Equipment, Welding Fume Collectors

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New Literature—Continued

PUMPS—Illustrated bulletin No. B6336 covers line of single stage, double suction fire and booster pumps for efficient, low cost fire protection—pumps are approved for heads ranging from 60 to 108 pounds per square inch at capacities ranging from 500 to 1500 gallons per minute—issued by Allis-Chalmers Mfg. Co., 6900 Norman St., Milwaukee 1, Wis.

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AIR CONDITIONING—16-page illustrated booklet is entitled "How To Plan Your Postwar Air Conditioning Today"—booklet tells how air conditioning works, outlines principal factors which must be considered to plan air conditioning for specific application and describes equipment including compressors, condensers, units and coils—issued by Westinghouse Electric Elevator Co., 150 Pacific Ave., Jersey City 4, N. J.

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CAST RESIN PLASTICS—16-page illustrated technical data booklet is designed to give specific information regarding forms and shapes in which Bakelite cast resins are produced, their types and properties of each type—second section of booklet is devoted to methods of machining and finishing and articles produced from cast phenolic resins—issued by Bakelite Corp., Dept. E., 30 E. Forty-second St., New York 17, N. Y.

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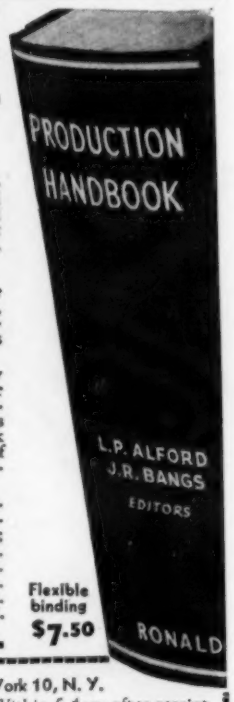
FOR EVERYONE IN MANUFACTURING



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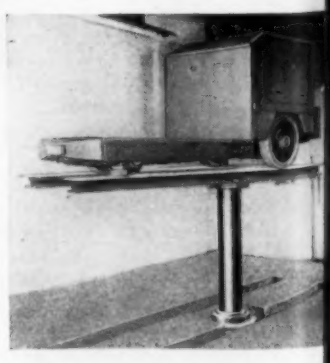

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Registered U. S. Patent Office

MECHANICAL IMPROVEMENTS • INDUSTRIAL LITERATURE
NEW PRODUCTS AND MATERIALS

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February, 1945

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SPRINGFIELD, OHIO

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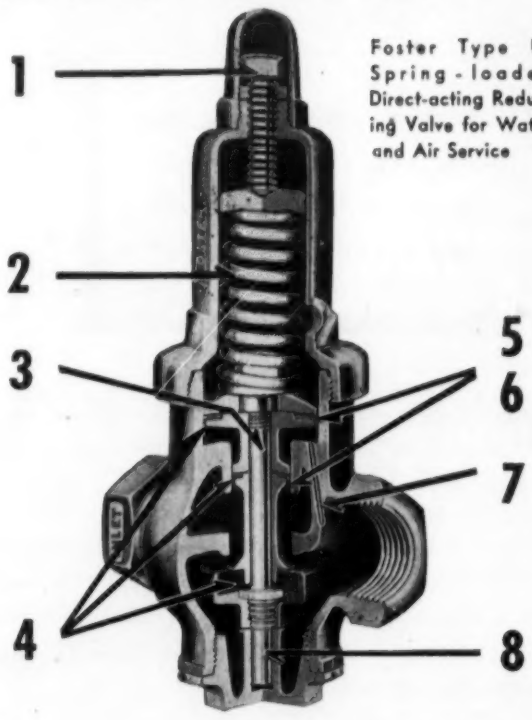

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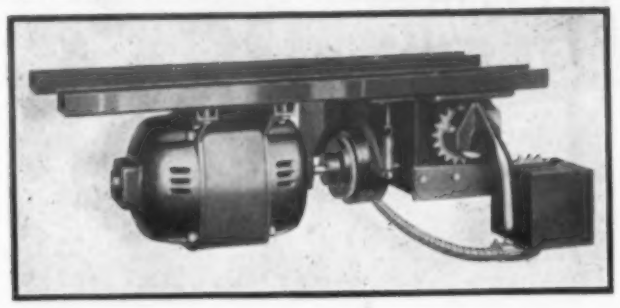

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BARBER-COLMAN COMPANY
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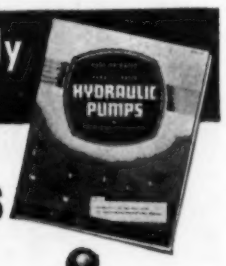

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GREATER PRESSURE RANGE
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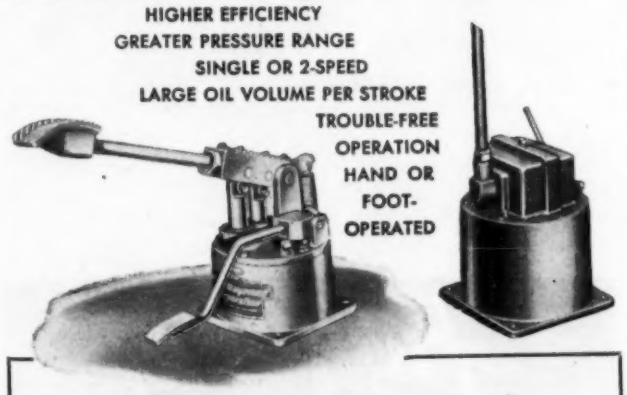
LARGE OIL VOLUME PER STROKE
TROUBLE-FREE OPERATION
HAND OR FOOT-OPERATED



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Hydraulically Operated Material Handling Equipment and Hydraulic Devices

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Your jobber will supply you —or write us for liberal sample.

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No Polishing!

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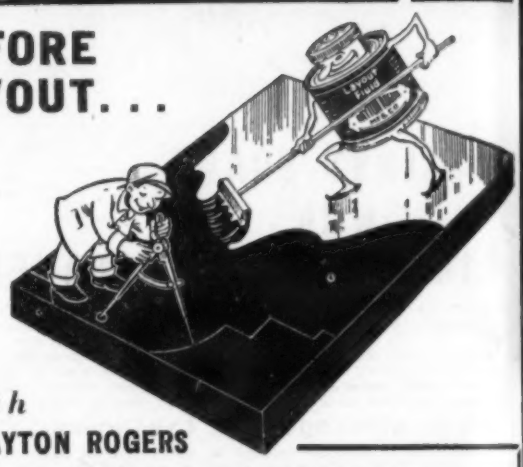

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LAYOUT FLUID

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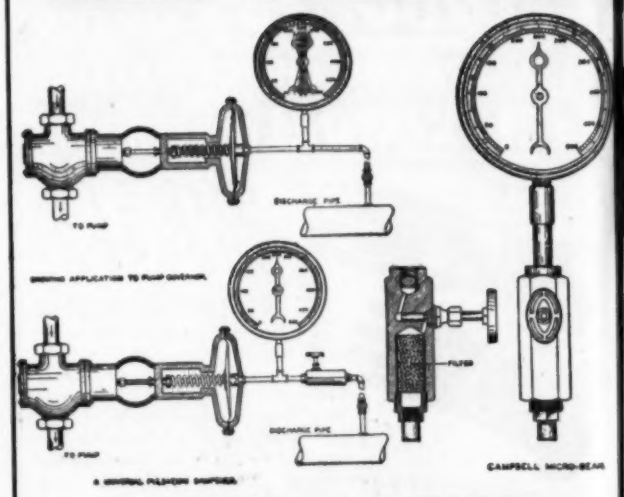

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MICRO-BEAN

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XLO EX-CELL-O for PRECISION — Precision MACHINE TOOLS • CUTTING TOOLS • AIRCRAFT AND MISCELLANEOUS PARTS

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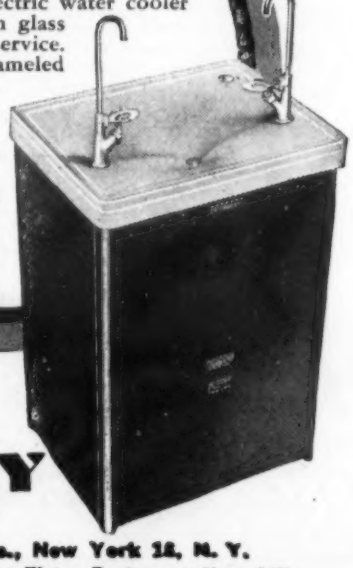

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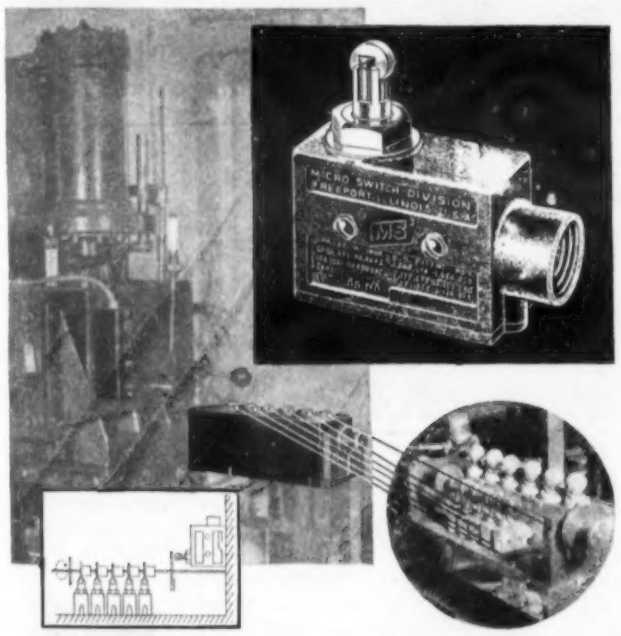

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A DIVISION OF FIRST INDUSTRIAL CORPORATION

FREEPORT, ILL., U.S.A., Sales Offices in New York, Chicago, Cleveland, Los Angeles, Boston, Dallas, Portland, (Ore.)

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KESTER CORED SOLDERS

• You can solve the solder end of your reconversion plans in a jiffy. Just specify KESTER for all soldering operations.

• You'll get soldered connections that hold tight—and we mean tight! Tight enough to resist shocks, vibration, bending and twisting, and the contraction and expansion that result from temperature changes.

• Your specification is simplicity itself. For electrical work—Kester Rosin-Core Solder. For general work—Kester Acid-Core Solder. Write your specification now, and solve the solder end of your reconversion plans.

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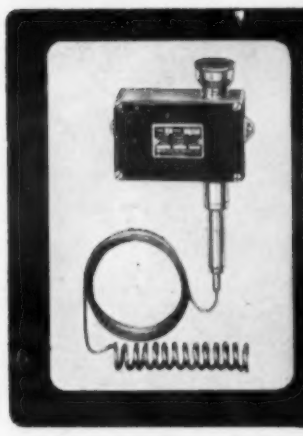

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United Electric Controls Company
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LITTELL SCRAP WINDERS

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SAVE scrap, prevent waste, and keep floors clean for faster, safer production—with Littell SCRAP WINDER shown. It is readily convertible into an Automatic Centering Reel by changing direction of motor.

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SPEED WITH SAFETY

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Uses the best insulating material known to man—AIR

A radical departure from the conventional use of plastics and similar material, the new Lincoln Type INS electrode holder uses insulating air between two sturdy guards to give many new advantages:

1 Electrode can be burned to a minimum stub end without damage to holder.
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4 Rating: 300 amperes—cool to operate.

Price only $2.50 each

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SPECIALLY DESIGNED FOR STEAM PRESSURE CONTROL

ACCURATE
Pilot actuated, extremely sensitive to flow changes. Accurately maintains desired reduced pressure.

FLEXIBLE
Two pilot assemblies for high or low pressure—interchangeable on all sizes.

COMPACT
Pilot forms integral part of regulator—requires minimum of installation space—yet has unusually large capacity.

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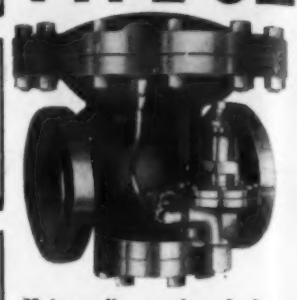

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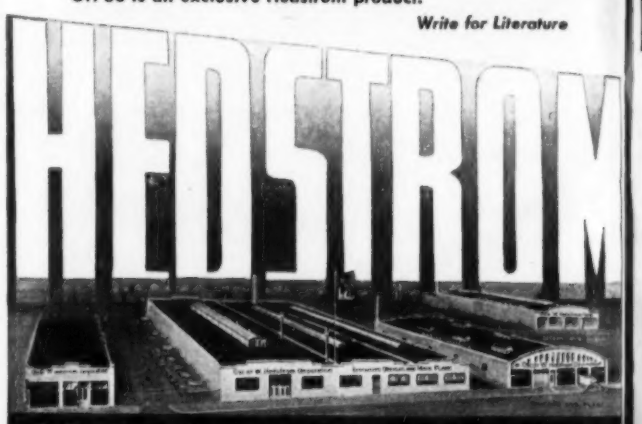

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Branches in Principal Cities

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★ Ingersoll-Rand furnishes ejectors to handle most any quantity of gas or vapor at any absolute pressure down to 50 microns Hg. Ask the I-R engineer for details.

4-286

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RIC-WIL PRESEAL Keeps Unit Water-Free Until Final Closure is Made

—another important advantage of RIC-WIL INSULATED PIPE CONDUIT

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THERE'S A G-R for every production or maintenance arc welding job, manual or automatic. Models range from 100 to 2500 amp. output. See your G-R distributor, or write:

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moments of decisions

Executive decision to install an *AMPLICALL* Paging and Communications System is a long, first step toward the multiple advantages modern *AMPLICALL* is bringing to the industrial plant. Thousands of large and small plants have found that *AMPLICALL* actually sparks the flow of production . . . removes barriers of delay . . . saves countless unnecessary daily steps . . . locates instantly . . . provides music to ease tension and reduce absenteeism. Decide now to learn why executives all over the nation are saying "*AMPLICALL* has given new meaning to the word 'efficiency'."

BACK THE ATTACK **Rauland** BUY MORE WAR BONDS

RADIO · RADAR · SOUND · COMMUNICATIONS · TELEVISION
THE RAULAND CORPORATION • CHICAGO 41, ILL.

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PAGE for WIRE

PAGE STEEL & WIRE

Rx *The RIGHT Wire for your Purpose*

● Can the job be done with wire? Should the wire be round, flat or shaped? What size would do it best? Should it be high carbon, low carbon, or one of the Stainless steels—iron or a non-ferrous metal?

PAGE can answer such questions for you. And, in answering them, **PAGE** may show you how to simplify, economize or speed up your production. For **PAGE** experience includes the use of wire in the making of other products—as well as the manufacture of practically any kind of wire.

. . . and WELDING ELECTRODES

PAGE offers a wide range of electrodes for welding iron, carbon steels and the various analyses of Stainless.

If you use wire in manufacture—if you have a production problem that wire might solve, or if welding is part of your manufacturing process, it will pay you to . . .

Get in touch with Page!

ACCO Monessen, Pa., Atlanta, Chicago, Denver, Los Angeles, New York, Pittsburgh, Portland, San Francisco

PAGE STEEL AND WIRE DIVISION
AMERICAN CHAIN & CABLE · BRIDGEPORT

▲ Mention Item NED-1181 when writing ▲

Peerless MARINE TYPE MOTORS
AC & DC

PEERLESS motors for marine service are manufactured in AC and DC up to 3 horsepower. Frames are cast iron or of all-steel construction (no cast iron or aluminum parts).

Also DC generators and motor generator sets consisting of DC generators with either AC or DC driving motors.

Peerless DC marine type motor for close coupled direct connected pumps, ½ to 3 h. p.

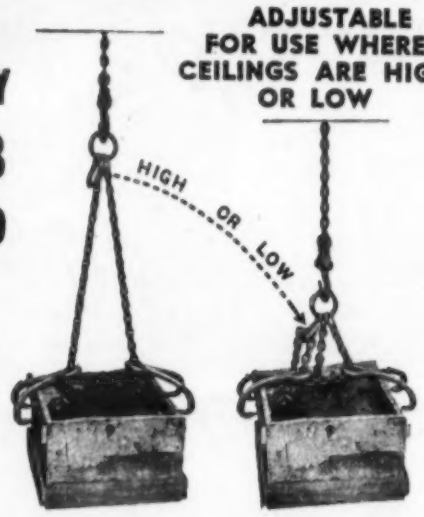
Peerless fractional h. p. DC marine type drip-proof motor.

THE Peerless ELECTRIC COMPANY
WARREN, OHIO
Established 1893

▲ Mention Item NED-1182 when writing ▲

SAFETY GRAB $32.00

ADJUSTABLE FOR USE WHERE CEILINGS ARE HIGH OR LOW



SPREAD IS 16" TO 48"

Used for picking up all types of heavy boxes, crates, bales or other loads where hooks may be used. Heavy, forged steel hooks with sturdy—⅜" B. B. B. chains.

Will promote safety and save a lot of manpower.

ASK ABOUT OUR BARREL-GRAB.

FISHER EQUIPMENT CO.
15133 Livernois Ave. Detroit 21, Mich.

▲ Mention Item NED-1183 when writing ▲

"Brother, take it from me . . . it's 100% Easier to Drive 50% More Screws in a Day!"

. . . that's what users of AMERICAN PHILLIPS SCREWS tell users of Slotted Screws

Workers on screw assemblies feel as though they had been freed from a chain gang, when their production chiefs liberate them from slow, exhausting, *high-cost* slotted screw driving . . . up to speedy, easy, *low-cost* American Phillips Screws and 4-winged Phillips power drivers.

For then they find that they can make their jobs amount to something . . . that it's actually far easier to do better work and more of it . . . yet still end their shifts without undue fatigue. Simply because American Phillips Screws drive automatically straight—and because the 4-winged driver can't jump out.

AMERICAN SCREW CO., PROVIDENCE 1, R. I.
Chicago 11: 589 E. Illinois Street
Detroit 2: 502 Stephenson Building

Take a Recess from Slotted-Screw Costs and Troubles . . . the Tapered, Engineered Recess of:

AMERICAN PHILLIPS Screws

Put the Screw on the Jaws . . . BUY BONDS!

▲ Mention Item NED-1184 when writing ▲

New Literature—Continued

CHAIN HOISTS & TROLLEYS—12-page illustrated bulletin describes entire line of chain hoists and trolleys—care and use of such equipment is also covered—issued by Chester Mfg. Co., Lisbon, O.

▲ Mention Item NED-1185 when writing ▲

RESISTANCE WELDING—60-page illustrated bulletin No. WP-44 contains scores of illustrated examples of resistance welding applications—material is arranged under five general headings in such a manner that answer to given problem on resistance welding can be quickly and easily located—issued by Progressive Welder Co., 3025 E. Outer Drive, Detroit 12, Mich.

▲ Mention Item NED-1186 when writing ▲

ADHESIVE TAPES—21-page illustrated catalog on industrial adhesive tapes lists each tape on separate page bearing sample of tape, brief description of products and its uses and essential specifications—comparison chart shows relative merits of various tapes—price list is included—issued by Bauer & Black, Division of The Kendall Co., 2500 South Dearborn St., Chicago 16, Ill.

▲ Mention Item NED-1187 when writing ▲

NON-METALLIC BASIC MATERIALS—12-page illustrated bulletin presents information on six non-metallic basic materials—included are Diamond vulcanized fiber, Dilecto laminated phenolic plastic, Dilectene synthetic resin, Celoron molded plastic products, Micabond mica sheets and Vulcoid sheets, rods and fabricated parts—issued by Continental-Diamond Fibre Co., Newark 30, Del.

▲ Mention Item NED-1188 when writing ▲

LUBRICATION—62-page illustrated booklet No. M-1084-2 is concerned with lubrication of line of milling, grinding, broaching and lapping machines—both general and specific instructions for care of each model are given—issued by Cincinnati Milling & Grinding Machines, Inc., Cincinnati 9, O.

▲ Mention Item NED-1189 when writing ▲

GAGES—84-page illustrated catalog No. 44-G on line of precision gages features three new gage developments: the Limitrol gage for performing six visual inspection operations in one; Carboloy gages with segmented shank; and gages of cast Stellite alloy—booklet also lists specifications under H-28 and H-25 standards—issued by N. A. Woodworth Co., 1300 E. Nine Mile Rd., Detroit 20, Mich.

▲ Mention Item NED-1190 when writing ▲

V-BELTS—72-page illustrated booklet is entitled, "V-Belt Handbook for Industrial Applications"—specifications and engineering data are listed on all types—issued by The B. F. Goodrich Co., Industrial Products Div., Dept. E, 500 S. Main St., Akron, O.

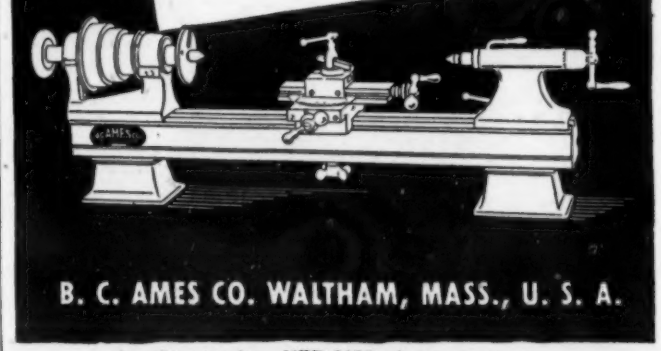
▲ Mention Item NED-1191 when writing ▲

INDUSTRIAL GREASES—12-page illustrated booklet describes line of industrial greases—booklet discusses such subjects as choosing lubricant, bearing lubrication, general types of greases and grease consistency standards—issued by E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa.

▲ Mention Item NED-1192 when writing ▲

AMES Precision BENCH LATHE

Known for 40 years as a precision lathe of the highest quality. Bed 36" long. Ball bearing headstock uses 1" capacity collets. Swing 8⅜" over bed. Available with motor drive.
Send For Catalog

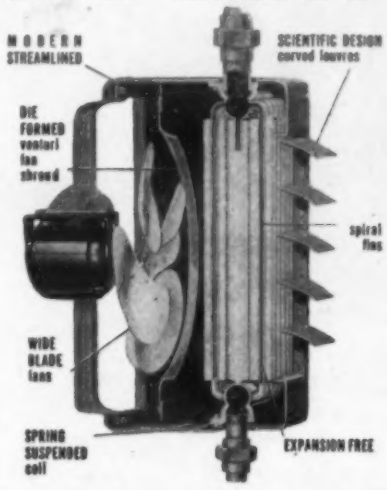


B. C. AMES CO. WALTHAM, MASS., U. S. A.

▲ Mention Item NED-1193 when writing ▲

Unit Heater . . . sets new standard of quietness and heating efficiency

McCord Unit Heaters are a time proven product, embodying design based on years of experience in the heat transfer field. These units are not only rugged in design and guaranteed for use on #150 p.s.i. steam pressure, but are made attractive in appearance. Two outstanding features appeal to maintenance engineers — we use standard motors with standard bases which quickly permits the use of replacement motors should a motor fail in service — the heating element is made of individual spiral fin tubes which are free to expand independently without putting a strain on the brazed joints. The entire heating unit is spring suspended and floats free in the casing, eliminating rigid connections. Improved type fan blades deliver large volumes of air with minimum air noise and vibration which makes these units suitable for office and store use. A complete line of vertical projection type unit heaters and blast coils are also available. Catalog on request, or write for new folder "Instructions for Maintenance of Unit Heaters." McCord Corporation, Detroit, Mich.



▲ Mention Item NED-1194 when writing ▲

A NEW KIND OF MACHINE TOOL
MULTIPRESS

Up to 4-Tons Pressure for an Amazing Range of Operations

Basic Unit $575.00

A completely self-contained, 4-ton, bench-size, oil hydraulic press of amazing scope. Downward ram pressures from 300 to 8000 pounds . . . upward pressures to 5000 pounds . . . stroke adjustable from 6 inches to 1/16 inch . . . ram speeds downward up to 200 inches per minute. Work table, 10½ x 16 inches without extensions. 11 inches between ram and table! Scores of standard fixtures extend its use to almost any type of work calling for pressure—sustained, in repeat strokes, synchronized with indexing tables, in automatic cycles, and many other ways. Write for details on MULTIPRESS. The Denison Engineering Co., 1151 Dublin Rd., Columbus 16, Ohio.

DENISON EQUIPMENT for APPLIED HydroOILics

▲ Mention Item NED-1195 when writing ▲

Be wise Specify AIRCO-TWIN

THE MODERN "2 IN 1" HOSE FOR WELDING AND CUTTING

Welding and cutting operators throughout industry prefer Airco-Twin hose because:

1. It does not kink as do individual lines.
2. It is strong and withstands unusually high pressures.
3. Easily shifted about—less chance of entangling.
4. Compact—it is easier to keep out of the way of hot slag and sparks.
5. Saves time required to tape up individual hose lengths.
6. For easy identification, acetylene line is red—oxygen is black.

A full description is available in folder ADC 609-A. Write to the nearest Airco office, or to Department NED, at the New York office.

★ BUY UNITED STATES WAR BONDS ★

AIR REDUCTION

Main Offices: 60 E. 42 St. NEW YORK 17, N. Y. AIRCO Offices in all Principal Cities

In Texas: MAGNOLIA AIRCO GAS PRODUCTS CO.

▲ Mention Item NED-1196 when writing ▲

Premier
HEAVY DUTY
INDUSTRIAL BLOWERS

★ Premier Heavy Duty Blowers range from ¼ H.P. to 1 H.P.—and cover a range of hundreds of uses in today's busy war production plants. They're equally efficient in both production and maintenance work—and their precision construction and all-around high quality assure trouble-free performance. They are quickly convertible to suction work with available attachments.

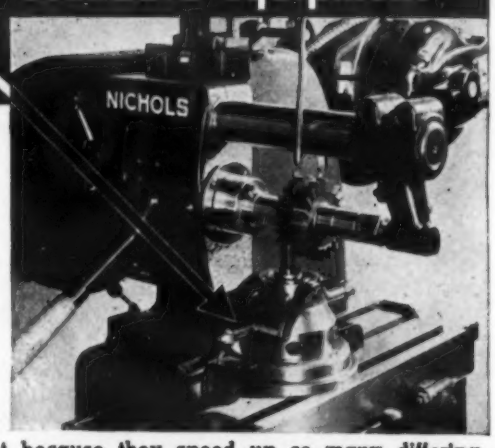
Model No. 66—¼ H. P.
Model No. 146—⅝ H. P.
Model No. 150— 1 H. P.

Write for descriptive literature, prices, full information

Electric Vacuum Cleaner Co., Inc.
1742 Ivanhoe Road • Cleveland 10, Ohio

▲ Mention Item NED-1197 when writing ▲

The *Nichols Miller*
Now Uses ZAGAR FIXTURES
as Standard Equipment



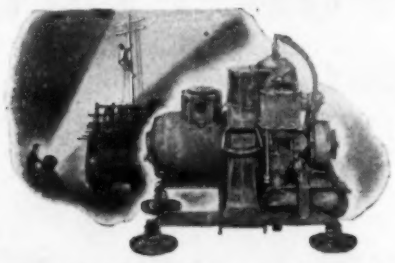
Get Bulletin "N-2"

—no doubt because they speed up so many differing kinds of jobs without special tooling. Adapted to milling, drilling, tapping, grinding, slotting. Simple set-ups built around Zagar Holding and Indexing Fixtures jump production, give closer tolerances, slash costs.

ZAGAR TOOL, INC., 25883 Lakeland Blvd., Cleveland 17, O.

Zagar INDEXING AND HOLDING FIXTURES

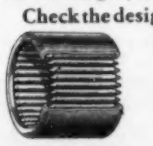
▲ Mention Item NED-1198 when writing ▲



TORRINGTON NEEDLE BEARINGS DOUBLE LIFE ON WRIST PINS OF HOMELITE PORTABLE GENERATORS

Picture an emergency... a city without light... in need of portable power to guide the tools of its repair crews. Then you'll see why Homelite Portable Generators are built to deliver efficient, dependable performance under all service conditions, and why Homelite engineers specified the use of Torrington Needle Bearings for the wrist pin end of the connecting rod because they give *double* service life... insure longer, maintenance-free operation.

Check the design advantages of Torrington Needle Bearings in terms of your own product. See how their high capacity, efficient lubrication, light weight and small size combine to increase operating efficiency and lower costs. Send for catalog today.



TORRINGTON NEEDLE BEARINGS
THE TORRINGTON COMPANY
Established 1866 • Torrington, Connecticut • South Bend 21, Indiana
"Makers of Needle Bearings and Needle Bearing Rollers"
New York • Boston • Philadelphia • Detroit • Cleveland • Seattle
San Francisco • Chicago • Los Angeles • Toronto • London, England

▲ Mention Item NED-1199 when writing ▲

New Literature—Continued

INDUSTRIAL STOKERS—Two 12-page bulletins show line of industrial stokers for all types of installations, large and small—bulletin No. 202 presents data on Lo-Set Ramfeed stoker designed for medium sized industrial boilers—bulletin No. 203 outlines advantages of Vulcan heavy duty Ramfeed stoker for severe industrial applications—issued by Canton Stoker Corp., 201 Andrews Place, S. W., Canton, O.

▲ Mention Item NED-1200 when writing ▲

MEASURING INSTRUMENTS—56-page catalog No. 53 covers line of measuring instruments—information is arranged for convenience and ready reference of buyers, engineers and users of dial indicators and micrometers, comparators, cylinder gauges, and thickness measures—issued by B. C. Ames Co., 131 Lexington St., Waltham, Mass.

▲ Mention Item NED-1201 when writing ▲

DIAMOND ABRASIVE WHEELS—6-page illustrated folder discusses use of Di-Met Rimlock diamond abrasive wheels in building and contracting industry—issued by Felker Mfg. Co., 1125 Border Ave., Torrance, Calif.

▲ Mention Item NED-1202 when writing ▲

RESINS & PLASTICS—12-page illustrated booklet entitled, "Polyethylene Resins," describes forms, properties, fabrication procedures and uses of this group of thermoplastic materials—interesting data tables are included which present graphic summaries of plasticity, electrical properties and thermal expansion of this resin—issued by Bakelite Corp., Dept. E, 30 E. Forty-second St., New York 17, N. Y.

▲ Mention Item NED-1203 when writing ▲

MELTING FURNACES—Two illustrated catalogs Nos. 550 and 600 describe complete line of melting furnaces and foundry accessories—specifications are listed for various units—issued by Fisher Furnace Co., 5535 N. Wolcott Ave., Chicago 40, Ill.

▲ Mention Item NED-1204 when writing ▲

FUNCTIONAL PHOTOGRAPHY—12-page illustrated folder is entitled "Functional Photography Checklist"—bulletin shows how utilization of photography's ability to see beyond confines of human vision can be applied to business—issued by Eastman Kodak Co., Rochester 4, N. Y.

▲ Mention Item NED-1205 when writing ▲

STEEL—100-page illustrated booklet is entitled "Republic Goes To War"—booklet points out how, at request of War Production Board, Reconstruction Finance Corporation and other governmental agencies, company has undertaken forty-two Defense Plant Corporation projects with total wartime cost of more than $200,000,000—issued by Republic Steel Corp., Republic Bldg., Cleveland, O.

▲ Mention Item NED-1206 when writing ▲

LOFTING—14-page illustrated brochure, "Precision Lofting," explains new industrial lofting method for producing, with accurate templates, variety of products ranging from automobiles, aircraft and household appliances to small components of every description—method involves mechanical reproduction of full-sized detail drawings, directly on tooling materials—Template Reproduction Co., 401 N. Broad St., Philadelphia 8, Pa.

▲ Mention Item NED-1207 when writing ▲

WRITE TODAY FOR DATA ON THE NEW GROVE FLEX-FLO VALVES
Ask for Bulletin 800 Describing This Unique Expansible Tube Type Valve. Operates by various systems of Remote Control

EXPANDS TO OPEN ★

★ CONTRACTS TO CLOSE By Remote Control

GROVE REGULATOR COMPANY
6533 GREEN STREET, OAKLAND 8, CALIFORNIA
Branch Offices: 30 Rockefeller Plaza, New York 20
5644 Navigation Boulevard, Houston 11, Texas
1930 West Olympic Boulevard, Los Angeles 6, California

▲ Mention Item NED-1208 when writing ▲

Cut Sheet Metal "Easy as Pie"

Black & Decker Porto-Shears cut straight lines, irregular lines or curves down to ¾" radius. Two models, 16 and 18 gauge, cut to rated capacity in steel, 50% more in non-ferrous metals. Cutting line always visible. The Black & Decker Mfg. Co., 662 Pennsylvania Ave., Towson-4, Md.

LEADING DISTRIBUTORS EVERYWHERE SELL
Black & Decker
PORTABLE ELECTRIC TOOLS
"ELECTRIC TOOL HEADQUARTERS"

▲ Mention Item NED-1209 when writing ▲

HALLOWELL

FOREMAN'S DESK OF STEEL
. . . an aid in doing a better job

Natty and neat, this member of the famous "Hallowell" Line is drawing the spotlight in many a shop! The "Hallowell" Foreman's Desk of Steel promotes efficiency and is useful far beyond its order-inviting cost.

It provides a convenient place to file notes and lock away papers. Lasts lifetimes!

We will gladly send you on request the "Hallowell" Catalog of Steel Shop Equipment.

Fig. 981 — Hallowell Foreman's Desk of Steel. Fine to work at. Fire proof, therefore a safe place to keep records under lock and key.

STANDARD PRESSED STEEL CO.
JENKINTOWN, PENNSYLVANIA, BOX 581
Branches: Boston, Detroit, Indianapolis Chicago, St. Louis, San Francisco

OVER 40 YEARS IN BUSINESS

▲ Mention Item NED-1210 when writing ▲

Illustration 1½ times actual size.

NEW Acro Snap NUT TYPE SWITCH

Here is a new push-button type switch with a double break feature for panel mounting applications. Compact and rugged. 29/32" diam. Cadmium plated brass case with a sturdy threaded sleeve 15/32-32, carrying two locknuts. Heat-treated beryllium springs and fine silver contacts for high current capacity and long life. Bakelite plunger. Strong shorting bar construction. Normally open or normally closed circuits. Rating is 15 amps. at 115 volts A.C. Total air gap of .040"-.060". Two pressure ranges of 10-15 ozs. and 16-24 ozs. Pretravel approx. 1/32", overtravel 1/64". If your needs vary from these specifications, kindly explain in letter or wire.

• THE ACRO ELECTRIC COMPANY
1312 SUPERIOR AVENUE • CLEVELAND 14, OHIO

▲ Mention Item NED-1211 when writing ▲

STEARNS Lifting MAGNETS MOVE MATERIAL Economically

SAVE TIME — DO BETTER JOB*

"We have used a considerable number of magnets in the past 15 years, and at present have 5 of your lifting magnets in our service. These are performing excellent work, and every one of them is doing a better job of lifting than those which we had formerly used.

"As you know, these lifting magnets are used throughout our cleaning room and foundry wherever castings have to be moved and are great time savers as there is no need for chains or chainmen. A crane operator can perform the whole job of moving castings from place to place throughout the plant."

*Name on application.

You get definite saving of time and labor in moving material inside and outside of your plant with Stearns Lifting Magnets.

And they are dependable! Read what this foundry official has to say. If you want sturdy, low initial and operating cost magnets in all practicable sizes and shapes, consult Stearns Magnetic, Milwaukee 4.

Ask for Bulletin 35.

STEARNS MAGNETIC MFG. CO.
653 S. 28th St., Milwaukee 4, Wis.

Separators Clutches Brakes

▲ Mention Item NED-1212 when writing ▲

Give your new equipment a good start in life—equip it with Timken Bearings throughout.

Equipment of any kind performs better, lasts longer and costs less for operation and maintenance when all moving parts are protected by Timken Tapered Roller Bearings.

It can operate faster because it is not retarded by friction; it possesses greater endurance because radial, thrust and combined loads constantly are kept in check; and where precision is an essential factor, it can be held to extremely close tolerances under all operating conditions.

To help bring Victory closer and protect your investment afterwards use Timken Bearings at every suitable position in your machines. The Timken Roller Bearing Company, Canton, Ohio.

"All There Is **TIMKEN** In Bearings"
TAPERED ROLLER BEARINGS

▲ Mention Item NED-1213 when writing ▲

Chicago Wheel takes pride in providing you with exactly the wheel you need, for exactly the job you have, to give you exactly the finish you want!

There's half a century of experience behind this, fifty years of specializing on grinding wheels—grinding wheels with hundreds of varieties in shape, size, abrasive and bond formulas, engineered for the right tool speed and work pressure.

Come to Headquarters

Our long experience and testing laboratory are at your service, free for the asking. Tell us about your tough grinding or polishing job. Our abrasive engineers will report promptly, give you their tested solution.

TRY ONE FREE—A Chicago Mounted Wheel or an FV Bond Grinding Wheel sent promptly on request. Tell us size preferred and what you have to grind.

Send for Illustrated Catalog

CHICAGO WHEEL & MFG. CO.
1101 W. Monroe St. Dept. NE Chicago 7, Ill.

▲ Mention Item NED-1214 when writing ▲

New Literature—Continued

ELECTRIC WELDING—64-page illustrated bulletin No. W-53 is entitled "Working Principles of Electric Arc Welding"—booklet is intended for both welding operators and design engineers—content is treated with minimum of technical language—copies are available at $1.00—issued by Welding Div., Harnischfeger Corp., 4537 W. National Ave., Milwaukee 14, Wis.

▲ Mention Item NED-1215 when writing ▲

HIGH PRESSURE AUTOCLAVES—8-page illustrated bulletin covers complete line of standard and specially designed high pressure autoclaves—these units are fabricated from forged steel or any noncorrosive commercial alloys and withstand pressures up to 2500 pounds per square inch—issued by Struthers Wells Corp., Titusville, Pa.

▲ Mention Item NED-1216 when writing ▲

THERMOCOUPLES—40-page illustrated bulletin S2-5 presents helpful data on thermocouples, lead wire, protecting tubes, heads and insulators—included are prices, recommendations for use and tables showing various types of thermocouples, temperature conversion, wire resistance, pipe and wire sizes and fraction-decimal equivalents—issued by Wheelco Instruments Co., 829 W. Harrison St., Chicago 7, Ill.

▲ Mention Item NED-1217 when writing ▲

ELECTRONIC PRODUCTS—24-page illustrated bulletin No. 202 describes nine types of electronic tubes for specialized applications—bulletin gives specifications, basic circuit diagrams and suggested applications for products and accessories—issued by Sylvania Electric Products, Inc., Special Products Div., 60 Boston St., Salem, Mass.

▲ Mention Item NED-1218 when writing ▲

CARBIDE TOOLS & BLANKS—12-page illustrated price list No. VR 330 for tantalum-tungsten carbide tools and blanks contains number of standard tools and additional sizes in both tools and blanks—issued by Vascoloy-Ramet Corp., North Chicago, Ill.

▲ Mention Item NED-1219 when writing ▲

REPRODUCTION EQUIPMENT—4-page illustrated folder describes two way reproduction advantages for Copyflex materials and for BW prints of BW-Copyflex model 2 continuous printer—information is also included on model 153M BW continuous developer—issued by Charles Bruning Co., 4700 Montrose Ave., Chicago 41, Ill.

▲ Mention Item NED-1220 when writing ▲

TOOL STEEL ELECTRODES—40-page illustrated manual and catalog contains technical information on Eureka tool steel welding electrodes—exact procedures and welding sequences are outlined—issued by Welding Equipment & Supply Co., 229 Leib St., Detroit 7, Mich.

▲ Mention Item NED-1221 when writing ▲

FLUORESCENT FIXTURES—12-page illustrated catalog No. 281 describes complete line of all steel industrial fluorescent fixtures—accessories provide for every method of mounting or hanging—issued by Mitchell Mfg. Co., Dept. N-2, 2525 N. Clybourn Ave., Chicago 14, Ill.

▲ Mention Item NED-1222 when writing ▲

Mortite
INDUSTRIAL TAPE OF MANY USES

It's new. Unrolls like ribbon. Easy to apply—just press into place with fingers. Adheres to any clean, dry surface. Will not crack or shrink.

A pliable plastic for use around the plant, on production line or in shipping room.

A GENERAL PLUGGER-UPPER

A quick, easy-to-put-on weather-stripping for shop windows and transoms to keep out drafts and conserve fuel. Keeps out dust, dirt, fumes, etc.

A faster, more efficient gasket method in many manufacturing operations.

Available in various sizes and formulas to meet your specific needs.

Write for Industrial Tape Circular A-108

J. W. MORTELL CO.
Technical Coatings since 1895
524 Burch Street • Kankakee, Illinois

▲ Mention Item NED-1223 when writing ▲

Keep their Eyes ON THE JOB with the New AO DURALITE GOGGLE

Larger side shields have perforations nearly double in size and number. New curved nosepiece assures a more comfortable fit; all-elastic headband holds goggles firmly in place.

And the new lightweight acetate eyecups are individually shaped to fit the left and right eye snugly, guard against particles striking from all angles, while impact-resisting Super Armorplate lenses protect against direct hits.

This new Duralite Goggle No. 301A can be supplied with either 50 mm. Super Armorplate lenses in clear or Calobar shades.

American Optical COMPANY
SOUTHBRIDGE, MASSACHUSETTS

▲ Mention Item NED-1224 when writing ▲

You Save still more-

when you "Pallet-ize" all the way!

Arrange your materials high on Pallets and Skids—speed them through every production stage to warehouse or delivery dock, on Elwell-Parker Trucks designed for that job. You will reduce costs, increase employees' safety, speed your production flow.

The Elwell-Parker Field Engineer will help *you* to "Pallet-ize" for still greater reductions in your load-handling costs. A 'phone call will bring him.

The Elwell-Parker Electric Company, 4502 St. Clair Avenue, Cleveland 14, Ohio.

ELWELL-PARKER
POWER INDUSTRIAL TRUCKS

▲ Mention Item NED-1225 when writing ▲

PATCH FLOORS WITHOUT HALTING TRAFFIC

No longer is it necessary to close off an area of concrete floor while waiting for newly installed patches to set. Flexrock offers a new plastic repair material which is ready for traffic almost the moment it's put down.

Tamp Smooth! Truck Over Immediately

There is no waiting. Simply shovel INSTANT-USE into the hole or rut—tamp—and your floor is restored to solid smoothness . . . back in service without delay. Tough INSTANT-USE bonds tight to old concrete, makes long-lasting heavy duty patch. Withstands extreme loads. Keep a drum on hand for emergencies. Immediate shipment.

REQUEST DESCRIPTIVE FOLDER and Details of FREE TRIAL OFFER

INSTANT-USE

FLEXROCK COMPANY
3603 Filbert St., Philadelphia 4, Pa.

Please send me complete INSTANT-USE information and details of FREE TRIAL OFFER—no obligation.

Name .....
Company .....
Address .....

▲ Mention Item NED-1226 when writing ▲